

UNIVERSITY OF LONDON
INSTITUTE OF ARCHAEOLOGY

FIFTH
ANNUAL REPORT
1948

PUBLISHED AT THE INSTITUTE
INNER CIRCLE, REGENT'S PARK, N.W.1
1949

SESSION, 1947-48

MANAGEMENT COMMITTEE


*Sir ALFRED CLAPHAM, F.B.A., F.S.A. (*Chairman*)
The Vice-Chancellor (Professor L. M. PENSON, Ph.D.)
The Chairman of Convocation (SIR ROBERT H. PICKARD, D.Sc., Ph.D., F.R.S.)
The Principal (D. W. LOGAN, D.Ph., M.A., B.C.L.)
Professor B. IFOR EVANS, D.Lit., M.A. (*Principal of Queen Mary College*)
Dr. E. G. M. FLETCHER, LL.D., B.A., M.P.
Professor E. D. EDWARDS, D. Lit., M.A.
Dr. D. R. PYE, M.A., D.Sc., F.R.S. (*Provost of University College*)
Professor C. L. WRENN, M.A.
Professor B. ASHMOLE, B.Litt., F.B.A.
Mr. K. DE B. CODRINGTON, M.A.
Mr. J. W. CROWFOOT, M.A., F.S.A.
Sir PERCIVAL DAVID, F.S.A.
Sir JOHN FORSDYKE, M.A., F.S.A. (*Director of the British Museum*)
Sir CYRIL FOX, Ph.D., F.B.A., F.S.A.
Professor S. R. K. GLANVILLE, M.A., F.S.A.
Mr. W. F. GRIMES, M.A., F.S.A.
Mr. C. F. C. HAWKES, M.A., F.S.A.
Mr. S. H. HOOKE, M.A., B.D., F.S.A.
Sir FREDERIC KENYON, D.Litt., LL.D., F.B.A., F.S.A.
Sir CHARLES PEERS, D.Litt., F.B.A., F.S.A.
Sir LINDSAY SCOTT, F.S.A. (*President of the Prehistoric Society*)
Professor A. F. BLUNT, C.V.O., Ph.D., M.A. (*Director of the Courtauld Institute of Art*)
Professor V. G. CHILDE, D.Litt., D.Sc., F.B.A., F.S.A. (*Director of the Institute of Archaeology*)

* Representing the Society of Antiquaries of London.

STAFF

Professor V. G. CHILDE, D.Litt., D.Sc., F.B.A., F.S.A. (*Director and Professor of Prehistoric European Archaeology*)
Professor F. E. ZEUNER, D.Sc., Ph.D. (*Professor of Environmental Archaeology*)
Professor M. E. L. MALLOWAN, M.A., F.S.A. (*Professor of Western Asiatic Archaeology*)
Professor K. de B. CODRINGTON, M.A. (*Professor of Indian Archaeology*)
Miss K. KENYON, M.A., F.S.A., (*Lecturer in Palestinian Archaeology*)
Mrs. MAXWELL-HYSLOP, F.S.A. (*Assistant in Department of Western Asiatic Archaeology*)
Miss IONE GEDYE, B.A. (*Technical Assistant, Repair Department*)
Miss O. STARKEY (*Technical Assistant, Repair Department*)
M. B. COOKSON (*Photographer*)
Mrs. GELL (*Assistant in Drawing Department*)

IAN W. CORNWALL, B.A. (<i>Secretary</i>)	Miss J. DU PLAT TAYLOR, F.S.A. (<i>Librarian</i>)
Miss M. EATES, B.A. (<i>Assistant Secretary</i>)	Miss G. TALBOT, B.A. (<i>Assistant Librarian</i>)



Digitized by the Internet Archive
in 2022 with funding from
UCL Library Special Collections

CONTENTS

	PAGE
Management Committee and Staff	3
Report on Session 1947-1948	7
Departmental Reports for the Session 1947-1948:	
Library	12
Department of Environmental Archaeology	14
Technical Department	18
Photographic Department	20
The Place of Archaeology in Indian Studies. Inaugural Lecture by K. de B. Codrington, Professor of Indian Archaeology	23
The Archaeology of the Roman Provinces, and Beyond. Inaugural Lecture by R. E. M. Wheeler, Professor of the Archaeology of the Roman Provinces	41
Miss K. Kenyon	65
Subscribing Membership of the Institute	68
Tessa Verney Wheeler Memorial Bursary	70
Publications of the Institute	71

Annual Report of Session 1947-48

STAFF

THE session just ended witnessed substantial expansion and change in the Institute's staff. In April Professor K. de B. Codrington took up the Chair of Indian Archaeology to which he had been called in 1947 but which has now been combined with a Chair tenable at the School of Oriental and African Studies. In March the University appointed Dr. R. E. M. Wheeler to the newly-created chair in the Archaeology of the Roman Provinces, but his duties as Director General of Archaeology in India will prevent his taking up office till next session. It is with the utmost satisfaction that we record the return to the Institute of its creator, founder and first Director. For it was Dr. Wheeler who, as recorded in the 3rd Report, planned the Institute of Archaeology, found it a physical home, a staff, equipment and secured its recognition as an institution of the University, and he had wisely guided its destinies until he felt compelled for a time to serve archaeology in the enormously rich but scarcely cultivated field in India. In January the Management Committee appointed Miss K. M. Kenyon, M.A., F.S.A., to the Lectureship in Palestinian Archaeology, and the University subsequently conferred on the Lecturer the status of Recognised Teacher. Miss Kenyon had previously acted as Honorary Curator of the rich Palestinian Collections in the Institute. But she had also been its Secretary since its foundation and had acted as Director in the absence of Dr. Wheeler till Professor Childe took up office in September 1946. On her had fallen the whole burden of the detailed administration of the Institute from its inception and also the tasks of packing up and safeguarding the Institute's collections on the outbreak of war, preserving the building and its contents during five years of raids and bombing, even then maintaining its activity as a centre of archaeological research—for instance by organising two most successful conferences on the Future of Archaeology—and finally of reopening the Institute on the cessation of hostilities in 1945. Now Miss Kenyon has happily not terminated this long connection with the Institute but has resigned the post of Secretary. In

accepting her resignation the Management Committee passed a resolution of appreciation of Miss Kenyon's services and directed the printing of the tributes from Sir Charles Peers (First Chairman of the Committee) and from Sir Cyril Fox that appear on pages 65-67 of this Report.

As successor to Miss Kenyon, Mr. Ian W. Cornwall, B.A., F.Z.S., a student of the Institute who was awarded the Academic Postgraduate Diploma in 1946, was appointed in January 1948. Reduction in the grant from the University Grants Committee required curtailment of the Institute's expenditure especially on the Administrative side. A Sub-Committee was accordingly set up to examine the administrative machinery of the Institute and recommended, among necessary economies, the abolition of the post of Assistant Secretary. The Institute thus will lose the services of Miss Margot Eates. Miss Eates was appointed Assistant Secretary in 1938 and returned to full-time employment in this post in November 1946. During the ten years Miss Eates has made signal contributions to the Institute's work most notably in organising during the war the exhibition entitled "The Present Discovers the Past," a copy of which was exhibited in London in 1943.

Mr. Pyddoke resigned his post as Museum Assistant in the Department of Prehistoric European Archaeology in August 1947, but rejoined the staff in a temporary capacity for three months after passing the Diploma examination in June. In place of Mr. Pyddoke, Miss Christine Taylor, B.A., was appointed in September 1947, and she became Secretary to the Director at the end of this year.

TEACHING AND LECTURES

Courses to cover fully the syllabus for the Academic Diploma in European Archaeology as established in the previous Session (4th Report, page 8) were given by the members of the Institute staff. The course on elementary technology was taken by Mrs. Crowfoot, Mr. A. D. Lacaille, Dr. H. Maryon and Miss Pincombe. This session, a two-term course on Field Archaeology, was arranged in Autumn and Spring Terms to which in addition to members of the Institute's staff Mr. A. J. C. Atkinson, Dr. J. G. D. Clark, Professor D. A. E. Garrod, Mr. W. F. Grimes, Dr. J. W. Jackson, Mr. A. D. Lacaille, Miss W. Lamb, Mr. B. H. St. John O'Neill and Mr. C. W. Phillips contributed lectures on special aspects of the subject. Since Archaeology is included in the syllabus for degrees and the Diploma in Anthropology and the students reading for these are sent to the

Institute to receive the requisite teaching, Professor Mallowan gave a course on the Rise of Civilisation in the Near East to supplement the general courses on Prehistory given by Professor Childe and Professor Zeuner. Professor Mallowan and Mrs. Maxwell Hyslop gave tutorial instruction in the Archaeology of Western Asia as required for the Academic Diploma in the subject. Professor Codrington and Dr. Swinton gave lectures and demonstrations on the history and organisation of museums. Finally, as in the previous session, Miss Kenyon gave lectures on Roman Britain for students in History and Classics.

During the Session the following public lectures were delivered at the Institute: "The Legacy of Asia" (Professor Mallowan's Inaugural Lecture, printed in the 4th Report); "Les dernières Fouilles à Lagash," by André Parrot, Keeper of Oriental Antiquities at the Louvre, and three lectures on Italian Prehistory by Professor P. Laviosa Zambotti of the University of Milan (the titles of these were: (1) "The Italian Pile-dwelling culture: Liguri and Euganei"; (2) "The Italian Vučedol Culture and the Formation of the Early Bronze Age in Italy: Proto-Latini and Siculi"; (3) "The Apennine Bronze Age Culture and Osco-Umbrian Invasion").

The Institute continues to provide a meeting place for archaeological societies. In addition to several afternoon meetings the Prehistoric Society arranged at the Institute a three-day Conference (April 16-18) on the Late Bronze Age and the Early Hallstatt period in Great Britain and on the Continent. At this the Director and Miss Kenyon read papers while a special exhibition had been arranged by the Technical Department.

PUBLIC EXHIBITIONS

An exhibition of the work of students in the Technical Department was arranged at the time of the Prehistoric Society's Conference and was kept open during the Summer Term. It displayed specimens of glass vases, an infant's skull, pottery and other objects restored or cleaned by students in training at the Institute as well as examples of casting and other work carried out by such students. It served a valuable purpose not only in impressing museum curators with the high standard of training provided at the Institute, but also in revealing to excavators how much can be done in the way of restoring unpromising looking specimens provided sufficient care is bestowed upon their extraction and conservation in the field.

On the occasion of the meeting in London of the 18th Interna-

tional Geological Congress Professor Zeuner organised an exhibition to illustrate the relations between man and his environment during the Pleistocene period. It included three main divisions:— (1) three cases of specimens of fossil soils from the collections in the Department of Environmental Archaeology; (2) Twenty-five cases illustrating the sequence of Palaeolithic cultures in relation to geological formations as observed in South Africa, East Africa (South and North Rhodesia, Kenya and Somaliland), Egypt, Italy, France and England; (3) dioramas exhibiting reconstructions of Pleistocene mammals in an appropriate landscape together with large-scale photographs of fossil remains and Palaeolithic drawings illustrating the data on which the reconstructions are based. Thanks to the co-operation of many colleagues and institutions, enumerated on page 17, Professor Zeuner has been able to gather together for comparison in one place representative series of Palaeolithic types from a wide area and has thus offered students of Pleistocene archaeology a unique opportunity of comparing types and sequences from the Cape to the Thames. All the exhibits were accompanied by explanatory labels and a descriptive catalogue was issued as Occasional Paper No. 9. The exhibition will remain open until the beginning of the next university term in October, 1948. Thereafter, owing to lack of space at the Institute and to allow the return of the cases generously lent by the Wellcome Historical Medical Museum, most of the exhibits will have to be packed up and returned to the contributors. However, some of the specimens have been presented to the Institute while others will be kept on loan. These collections will be kept together and will be a very valuable addition to the Institute's teaching equipment.

STUDENTS

Ten students have been registered at the Institute for the Academic Diploma in European Archaeology and one for that in Western Asiatic Archaeology. Three of the former sat for the examination in June and two were awarded the Diploma. Thirteen students have been attending courses in the Technical Departments which now issue certificates of proficiency signed by the Instructors concerned and by the Director. In addition 22 students have paid fees and 46 inter-collegiate students have been attending lectures on Prehistoric Archaeology and the Archaeology of Roman Britain.

A full day excursion to Lewes was arranged again in the Summer Term. The Director also took a party of senior students to Avebury for the Whitsun week-end. Petrol having been made available it was

possible to visit in addition to the Morvern Institute collection and the monuments in the vicinity, the Museum of the Wiltshire Archaeological and Natural History Society in Devizes, which the Honorary Curator very kindly made accessible to the party on Whit-Monday. The staff of the British and Medieval Department of the British Museum have again kindly allowed parties of students to have access to the parts of the collections not yet on public exhibition.

COLLECTIONS

Now that Miss Kenyon has been freed from the onerous administrative duties of the Secretaryship it is hoped that the cataloguing of the magnificent Palestinian collections will soon be completed. Thereafter many specimens not immediately required for teaching or research can conveniently be packed away and space made available for other exhibits such as some of the African palaeolithic groups acquired in connection with the special exhibition described above.

The collections continue to be increased by gifts and loans and a few purchases. During the year the most notable additions to the European collection were typical sherds from Spanish Morocco, the Canary Islands and Spain presented by the Seminario de la Historia primitiva del Hombre in the University of Madrid and a series of palaeoliths lent by the Reading Museum. In the same period the Asiatic Collection received a very large assortment of pottery and other objects on semi-permanent loan by the Palestine Exploration fund, a type series of sherds from Mersin, Cilicia, presented by the Turkish Government through Professor John Garstang, and a most valuable collection of pottery, terracottas and seals from Harappa, together with pottery from Arikamedu presented by the Government of India through the Director General of Archaeology. This gift constitutes probably the largest and most representative group of relics from the Bronze Age civilisation of the Indus valley available in the British Isles.

Library

Annual Report 1947-48

DURING the year there was a marked increase in the use of the Library. Loans both to members and students increased, and loans by post and also of lantern slides were numerous. Nearly double the number of volumes was borrowed from other libraries.

Accessions to the library were approximately the same as last year and the *Main Catalogues* were kept up-to-date. Some progress was made with the *Subject Index* and part made available for readers.

Considerable progress was made with the rehousing and cataloguing of the *Lantern Slides*. Even with the professors' and their assistants' help, the work is not yet complete, and to hasten matters, an extra cataloguer was taken on in June. Mrs. Field, and subsequently Miss Joan Rogers, was employed in this work. The original collection is approximately 7,000.

The *Map Collection* was re-housed and catalogued. The One-inch Ordnance Survey of Great Britain has been mounted and folded to fit the new cupboards. A number of the Near Eastern maps have also been mounted and folded and the remainder will be mounted as funds allow.

Archaeological queries have been dealt with in the Library both by letter and personal inquiry. An information file has been opened in the Library Office to co-ordinate some of the information.

Volumes added to the Library, 591.

Pamphlets added to the Library, 291.

Periodical volumes added, 291.

Lantern slides added, 430.

Volumes bound, 346.

Volumes lent, 1,649. Highest month, May, 239. Lowest month, August, 47.

Volumes borrowed from outside libraries, 217.

Lantern slides lent, 294.

Volumes presented, 140.

Pamphlets presented, 270.

Volumes and pamphlets on loan, 88.

Volumes and pamphlets received in exchange, 44.

LIBRARY

Donors of books and pamphlets:—

Roland Austin, Esq.
 Archaeological Survey of India
 British Academy
 British School at Athens
 C. E. N. Bromehead, Esq.
 Mario Cardozo
 Professor V. G. Childe
 C. I. B. A. Review
 I. W. Cornwall, Esq.
 Council for British Archaeology
 O. G. S. Crawford, Esq.
 Frank Cottrill, Esq.
 Consejo General de Excavaciones
 Arqueológicas
 Miss D. Dudley
 Dr. H. A. Fawcett
 Fausto J. A. de Figueiredo
 Folia Universitaria, Bolivia
 Sir Cyril Fox
 Professor H. J. Fleure
 Mrs. Gell
 R. G. Goodchild, Esq.
 L. V. Grinsell, Esq.
 Professor C. F. C. Hawkes
 Hellenic Society
 Sinclair Hood, Esq.

International African Institute
 Iraq, Department of Antiquities
 E. Jelacay
 R. F. Jessup, Esq.
 —. Kavanagh, Esq.
 A. D. Lacaille, Esq.
 Professor M. E. L. Mallowan
 Herbert Maryon, Esq.
 Dr. M. A. Murray
 O. H. Myers, Esq.
 C. D. P. Nicholson, Esq.
 H. V. V. Noone. Prof. Newberry
 Ordnance Survey

A. do Paço
 E. Pyddoke, Esq.
 Royal Geographical Society
 Society of Antiquaries
 J. R. Stewart, Esq.
 Dr. J. F. S. Stone
 F. M. du Plat Taylor
 Miss du Plat Taylor
 Mrs. Walton
 Miss V. Seton Williams
 Dr. R. E. M. Wheeler
 Professor F. E. Zeuner

The Department of Environmental Archaeology

Report for 1947-48

By PROFESSOR F. E. ZEUNER

ACTIVITIES

THANKS to the appointment of a permanent technical assistant, it has been possible to catch up with arrears and to continue the re-organisation of the teaching collections. It has also been possible to fit in a small amount of original research (on frost soils and loess). Since the spring of this year, however, most of the time has been devoted to the preparation of an exhibition of Stone Age and Pleistocene Geology which was shown on the occasion of the 18th International Geological Congress. Work on reconstructions of the environment of Palaeolithic Man was continued.

STAFF

Miss Joan Sheldon has been appointed Technical Assistant in the Department. In addition, Mr. Edward Pyddoke spent three months full-time work on the Lower Palaeolithic teaching-collection and on the Exhibition. Miss Marjorie M. Howard carried out valuable work for the Department, mainly on the teaching-collections and in the reconstruction of animals and of environment in general.

While the Exhibition was being prepared, several of the staff of the Institute, as well as others, helped by spending all their spare time on tedious technical work like that of lining the cases, writing labels and mounting specimens. I am particularly grateful to: Mrs. Conlon, Miss Ione Gedye, Miss Audrey Glover, Miss Lilian Gunning, Miss M. Howard, Miss Mary Horan, Miss Marion Silcock, Mr. I. W. Cornwall, Mr. C. Nicholson, Mr. E. Pyddoke and Mr. A. Trotman.

LABORATORY

The most important addition is a petrological microscope which

THE DEPARTMENT OF ENVIRONMENTAL ARCHAEOLOGY

will be very useful, both for teaching and research. A large central bench with twenty-four drawers and an ebonite top has been fitted in the laboratory.

COLLECTIONS

Many improvements have been made in the teaching collections. Additions amount to about 350 specimens of rocks, minerals and other raw materials, c. 100 bones, and c. 100 shells, though the last figure includes large numbers of minute specimens. Donations were received from Mr. E. Pyddoke, Miss M. Howard and especially from Mr. A. E. Ellis, the author of the well-known text-book on British Snails. He has supplemented our collection of mollusca by many rare species.

The set of reconstruction-models has been increased by two dioramas, (1) a scene in the loess steppe of Moravia, with Steppe Bison and Saiga Antelope (Aurignacian times), and (2) a scene on the banks of the Thames at Swanscombe, with Merck's Rhinoceros and Clacton Fallow Deer (Clactonian and Middle Acheulian times). This work was carried out in conjunction with the Technical Department.

A new and urgently-needed teaching set of Lower Palaeolithic implements is now being prepared. The Wellcome Historical Medical Museum has substantially contributed to it, thanks to the kindness of Dr. Ashworth Underwood and Mr. A. D. Lacaille. Much African material has been presented by Professor C. van Riet Lowe (Bureau of Archaeology of the Union of South Africa), Mr. Roger Summers (National Museum of Southern Rhodesia), Dr. J. Desmond Clark (Rhodes-Livingstone Museum, Northern Rhodesia) and Dr. L. S. B. Leakey (Coryndon Museum, Kenya). As it shows the evolution of the Lower Palaeolithic more clearly than the European materials, it is a most welcome addition to our collections.

LIBRARY

Sixteen books and periodical numbers were bought for the Department in connection with research work. Two volumes were presented by Mr. C. Nicholson.

TEACHING

Apart from the usual courses, instruction was given to one Ph.D. candidate.

One lecture on Soils and Archaeology was delivered at the

Institute. Nine lectures were delivered outside the Institute. Sixteen days were spent with students in the field, the average number taken out being three. Thanks are due to Miss Howard and Mr. Cornwall for placing their cars and petrol at the disposal of students.

ENQUIRIES AND RESEARCH CONNECTED WITH EXCAVATIONS

Eighteen requests to study samples submitted to the Institute were accepted and 290 samples were analysed or determined in the Department, twenty-two other enquiries were answered by letter after investigations not requiring work in the laboratory. Among the material studied were deposits from Palaeolithic sites in western India, from Aden, Palestine, and many British sites.

OTHER RESEARCH

A preliminary study of soil sections from prehistoric sites in Kenya and Tanganyika was carried out and the sections, together with implements found in the various horizons placed in drawers for the use of students. Frost soils from higher altitudes on Mount Kenya were investigated and a paper prepared for publication. Obsidian implements from the same area were studied also. British soils were studied on many excursions and sections collected which are sufficiently simple to help the student of archaeology to understand the principles of soil formation. Fifty-nine days were spent on research in the field.

The following papers appeared in 1947-48:—

- (1) Time and the Anthropologist, *Discovery*, London, September, 1947, pp. 254-78.
- (2) Climate and Early Man in Kenya, *Man*, February, 1948, pp. 13-16, pl. B.
- (3) Dating the Past: Recent Work on Chronology, *Brit. Assoc. Adv. Sci.*, 4 (16), pp. 332-38.
- (4) The Exhibition of Stone Age and Pleistocene Geology from the Cape to Britain, *Occ. Pap. Inst. Arch.*, 9, 63 pp.

THE EXHIBITION HELD ON THE OCCASION OF THE XVIIITH INTERNATIONAL GEOLOGICAL CONGRESS, AUGUST-SEPTEMBER, 1948

The Exhibition was formally opened on Thursday, August 26th, with a tea reception. It was intended to give the members of the International Geological Congress an opportunity to meet their



A. Environment of Middle Acheulian and Clactonian Man. Scene on the banks of the Thames near Swanscombe in Great Inter-glacial times, with Merck's Rhinoceros and Swanscombe Fallow Deer



B. Environment of Gravettian and Magdalenian Man. Winter scene of the Last Glaciation, in the eastern Carpathians near Starunia, where bodies of the Woolly Rhinoceros (shown in the diorama) were found preserved with skin



Environment of late Moustierian and Aurignacian Man. Scene in the loess steppe of the Last Glaciation, near the Moustierian site of Wallertheim (Rhenish Hesse), showing a pair of cave lions and Przewalski's Horse. Note that the lions were relatively larger, and the horses smaller, than their modern relatives.

colleagues working in the branches of prehistory and archaeology in general, and to show by means of a number of selected exhibits the close connection which exists between physical geology, Pleistocene stratigraphy, vertebrate and human palaeontology, and prehistory. A description of the exhibition was published as No. 9 of the Occasional Papers of the Institute.

In spite of the somewhat isolated position of the Institute and of the crowded Congress programme, a large number of members visited the Institute. From attendance counts it appears that about 15 per cent of the Congress members saw the exhibition, a satisfactory number considering that Pleistocene geology is but a very minor branch of geology as a whole. The exhibition was also shown to the Prehistoric Society, the Geologists' Association, the Richmond Scientific Society, and groups of students from Birkbeck College and University College. In all about 900 visitors were counted.

The Institute owes a debt of gratitude to those who have so unselfishly contributed exhibits, in particular to Mr. Miles Burkitt (Cambridge), Miss G. Caton Thompson (Cambridge), Mr. Desmond Clark (Livingstone), Dr. E. M. Crowther (Harpenden), Mr. A. D. Lacaille (London), Dr. L. S. B. Leakey (Nairobi), Professor C. van Riet Lowe (Johannesburg), Dr. K. P. Oakley (London), Mr. R. Summers (Bulawayo), Mr. W. Watson (London) and Dr. Ashworth Underwood (London). The Institutions which have contributed to the exhibition are the University Museum of Archaeology and Ethnology, Cambridge, the National Museum of Southern Rhodesia, Bulawayo, the Rhodes-Livingstone Museum, Livingstone, the Wellcome Historical Medical Museum, London, the Archaeological Survey of the Union of South Africa, Johannesburg, and the British Museum (Natural History). Mrs. Sonia Cole (Nanyuki, Kenya) and Mrs. Pamela Bolton (Livingstone, Northern Rhodesia) very kindly brought fragile material from Africa and saw to it that it reached the Institute safely. From the technical point of view we are much indebted to the Wellcome Historical Medical Museum who very kindly lent us most of the exhibition cases.

Report of the Technical Department

1947-48

THE work of the Department now having progressed far beyond the mere repair of pottery, it was thought proper that it should have a new title. "Technical" suggested itself as a more comprehensive term, including all the new activities.

Again teaching has taken up the greater part of the time of the Department. This year we have had thirteen students, one of whom took the short course. Of the rest five came from Museums and the remaining seven were studying to fit themselves for Museum posts or for excavations abroad. One point of interest this year has been the number of students from overseas. These have come from India, Siam, Egypt, Transjordan, Canada and Ireland. In addition to the usual Technical course, we gave special training in the field treatment of archaeological finds to Miss Glover, who went to Sabratha as field technician.

Most of the time available for outside work has been allocated this year to the very large collection of Saxon pots which continues to be sent to us by Lincoln Museum. In spite of this, work has been undertaken for three other museums, five private individuals and two excavation committees.

Scale models of *Bos primigenius* and *Rhinoceros merckii* have been added to the collection and four more dioramas have been completed:

A scene at Swanscombe, England, during the Great Interglacial with *Dama clactonianus* and *Rhinoceros merckii*.

A scene in Starunia, eastern Galicia, in the Last Glaciation with woolly rhinoceros and arctic fox and hares.

A loess-steppe in Moravia in the Last Glaciation with bison and saiga antelope.

A scene in the Northern forest belt in the Upper Pleistocene cool phase with elk and beaver.

Casts of some of the animals have been bought by the British

TECHNICAL DEPARTMENT

Museum (Natural History), the Manchester Art Gallery and the Rhodes-Livingstone Museum, Northern Rhodesia.

This year some elementary casting has been added to the curriculum for technical students, also some instruction in the preparation and restoration of bones. Some of the advanced students took the opportunity in the summer, when the exhibition was being prepared for the International Geological Congress, to acquire some experience in the arrangement of museum cases.

A small exhibition of students' work was held in the Summer Term.

Report of the Photographic Department

1947-48

WORK in the Photographic Department during the last year has proceeded smoothly, and the Department has been used by staff, students and Members in much the same manner as in previous years save that more appeals have been made to it in a consultative capacity. There have been more Members and students seeking advice on technique or method in dealing with their own special problems, and several small excursions have been made in order to see that advice given was correctly carried out and to give confidence, the student or Member paying such out of pocket expenses as were incurred.

The Conference of the Prehistoric Society at the Institute gave an opportunity to display some work done by students of the Diploma and Museology Courses who were working in the Department; it is hoped to have a similar opportunity again since the chance of having work displayed has increased the students' enthusiasm.

Whilst the figures given for the production of prints and enlargements do not show any great increase, more exacting and interesting work has been entailed. The prints were sometimes as large as 30 inches by 24 inches, and several were intended for making up into a larger whole. In one instance alone, a map, the finished product was ten feet by eight feet; some of the enlargements were mounted on linen for which frames had to be made. The work, whilst interesting, was also intricate but the results satisfactory in every way.

TEACHING

As an adjunct to the lectures and practical periods of the Photographic course, the experiment was made of instituting "Improver Periods": The students, having completed the course, were invited to utilise any spare time that was available and spend it in the Studio and Laboratory either on work of their own or in assisting with work in hand and so accustoming themselves to a practical use of the materials (plates, films and papers) and to the lighting of various

PHOTOGRAPHIC DEPARTMENT

subjects. This "workshop practice" did prove extremely useful, and it is intended to continue it.

EQUIPMENT

The value of the dry-mounting machine purchased last year has been established in practice; a single instance to demonstrate this value was the preparation of over five hundred labels for the show cases in connection with the visit of the International Geological Congress.

The need of a 16 mm. Cine Projector and eventually a Cine camera is becoming increasingly apparent. Some time has been spent in viewing several of the makes available. No choice has, however, yet been made.

It is also intended to renew the present Copying Camera Equipment replacing the existing wooden construction with one of tubular steel, enlarging the copy board, increasing the lighting power and giving more studio floor space.

The students' darkroom, referred to in the last report, is now complete and ready for use. It is a large, airy room, about fifteen by ten feet in area; it is fitted with running water, safe lights, rubber tanks for larger work and miniature film-developing tanks. Developers both fine-grain and ordinary, will be ready made up for immediate use. Bromide and Gaslight printing paper can be obtained as required and charged at cost. The room is large enough to permit photographs to be taken in it, and light, together with all the necessary equipment, such as a heavy duty camera stand, sheets of ground-glass and background paper, will be available. The charge made for the use of the darkroom and equipment will be 2/6 per hour. Such materials as students and Members will use will be charged at standard rates for normal black and white work. But workers who require special grades of plates, film and paper which are not ordinarily used would be well advised to bring their own. The vertical fitment, also referred to in the last report, has been installed and is proving a great success.

The Department has participated in excavations in Britain on only a small scale but at the end of last session Mr. M. B. Cookson was granted leave of absence to assist in the excavation at Sabratha in North Africa directed by Mr. J. B. Ward-Perkins, Director of the British School at Rome. A report of his activities there will be rendered in the next Annual Report.

The Junior Assistant has now been replaced by a Senior Assistant who helps and advises students doing their own work, and who

PHOTOGRAPHIC DEPARTMENT

carries out routine procedure and assists at the lantern during lectures. This enables Mr. Cookson to attend excavations and Museums, etc., without losing time on current work.

Work has been carried out for thirty private clients, nine museums and other institutions and two expeditions. The work completed comprises 1,214 lantern slides, 3,757 prints and enlargements; a hundred and seventy-four lectures in connection with Institute courses required the use of the lantern, and in addition the lantern was used at six other lectures delivered at the Institute.

ADDITIONS TO EXISTING EQUIPMENT

- (1) Camera stand extending two feet to six feet—"All Angle."
- (2) Vertical stand of Tubular Steel in Studio.
- (3) Telephoto lens for Field Work.
- (4) Wide angle lens for Field Work.
- (5) Compur Type, front-of-lens shutter.
- (6) Filters, Pola Screen and others.

The Place of Archaeology in Indian Studies

INAUGURAL LECTURE

DELIVERED ON OCTOBER 28TH, 1948

By K. DE B. CODRINGTON

Professor of Indian Archaeology

I AM not sure that this function is not, in a way, out of order. For, although we celebrate the creation of a new chair, I myself have been a Recognised Teacher of this University for some years. It is, in fact, exactly twenty years since the first student presented himself at University College and demanded teaching in Indian Archaeology. That was T. B. Nayyar, now Professor of History in the University of Madras. I should fail in my duty to the University, I think, if I did not point out that this Chair, as a part-time Chair in this Institute, was created by the University in the usual way, out of its own funds, leaving it to the Scarborough scheme, recently implemented by the present Government, to raise it to full status. The historian of the future will doubtless wonder why the urgency of the proper, and realistic, organisation of Oriental Studies was not realised by other governments. He will find plentiful documentation and, indeed, admissions on the part of the great that something ought to be done. But political commonsense was overlaid, it seems, by official heedlessness. Nothing at all was done until these years when in many ways we face a new world, and, I believe, face it on better terms, having abandoned much verbiage and some delusions. The holders of the posts, now being created at London and at Oxford and Cambridge, can look forward to collaboration with their Oriental colleagues, free from the mute criticism of official heedlessness. And that is all that I am going to say of the immediate past.

In this country we do not demand training in teaching of our professoriate nor, indeed, in our public schools. I have seen the insides of a number of universities and a number of kinds of schools, and it

did not take me very long to realise that teaching was an art. I sought instruction with the result that I think I can say that, although I frequently still teach badly, I usually know when I am doing it, and can take refuge in the pedagogue's last line of defence, recapitulation. In spite of the fashionable talk of research, and, in some cases, of the real urgency of research, I believe that the chief function of any Chair is teaching. And it should be obvious that, whatever our abilities or specialities may be, we none of us can teach too well. In India, the relationship of student and teacher is as ancient as it is honourable, and I hope you will agree, High Commissioner, that it is in keeping with the Indian sentiment that I should say something of my own teachers.

I came to this country a good deal later than most Anglo-Indian children do, and saw it first in February. Sent out for a walk, I met an old gentleman posting a letter. He spoke to me and could hardly have avoided recognising the accent of the country-born. At his front-door, which he had left open, fortune played into my hands. He pointed to the gilt figure on the hall-table and asked me if I had ever seen anything like it. I had not sat on the floor of Imré Schwaiger's shop in Simla, during the Younghusband Expedition, without knowing a Tibetan Bodhisathva, and so won my first teacher. He was Sir George Birdwood, author of *The Industrial Arts of India*; "a handbook to the Indian Museum, South Kensington," so the title-page runs. He first took me to the Museum and later to the India Office to see the paintings and aquatints of old Calcutta and Madras. At the foot of the great marble staircase, he stopped to talk to a tall figure in a grey frock-coat, and as we turned to go, said to me: "Remember that you have seen Alfred Lyell. He went to India before the Mutiny, before they persuaded themselves that Latin and Greek were all the I.C.S. needed to know!" And I did remember it.

The opportunity of three terms residence at Cambridge came unexpectedly. I leapt at it because of three names I knew: Duckworth, Haddon, and Rivers. The Master of Jesus' anatomy lectures still seem to me to be high examples of what scientific exposition should be; Haddon first taught me to look at objects and to recognise skill in techniques, which the text-books called "primitive"; Rivers taught me that anthropology was the study of man and not the study of savages, and that there could be an anthropology of universities. It was he who sent me to Brown. I went to him, I believe, with some doubtless quite silly question about Muslim Law. He certainly never answered it, but at the end of the year over Sunday cups of tea and

walks by the river, he had taught me a considerable amount of Persian, a language I had no occasion to hear or to speak until 1940. I fear my archaeological colleagues are likely to misunderstand me when I say that his great *History of Persian Literature* seems to me to be the sort of book that ought long ago to have been written about India. We Orientalists have been too often conscientiously boring. We have lacked style and consequently have failed to catch the ear. Otherwise, Oriental studies would long ago have met with the support they deserve, instead of apathy and neglect.

Now, I am not one to begin by saying that my subject is of no use. It is possible that the greatest threat to civilisation today is not atomic, or the cataclysmic by-way of war of any sort, but administrative failure. At least, what we know of the decline of dead nations and empires makes it probable. Archaeology is the study of man's past and is concerned very largely with objects. The officials in whose hands our fate lies, it seems, would probably find their task easier if they knew a little more about men and a good deal more about the study of objective facts. In defining Archaeology, I would avoid the doctrinaire. The medieval schoolmen from whom we derive our habiliment, our office and, perhaps, some of our mentality, wrangled over the functions of Idealism and Realism, and it is worth remembering that what they called realism, we call idealism, and what we call realism is something quite different from what they meant by the word. If archaeology is a science and its methods are scientific, do we not protest a little too much with all our talk of objectivity, realism and materialism? The idea that man is moulded by his environment is as old as Hippocrates. The only difference is that until comparatively recently the influence of the planets was included in the environment that was supposed to mould man. It was Buffon, a biologist, who modernised the idea by seeing that man by his mastery of techniques alters his environment, and that, quite apart from mechanics, socially he is himself part of his environment. Ratzel, supported by the German mind, said that all human phenomena were derived from the soil: the astrologists, who were equally rigid determinists, said that all human phenomena were derived from the planets. Astrology is dead, and astronomy lives as the study of the heavenly bodies. In the same way geography must be allowed to be the study of places, not of men. In 1929 Charles Elton gave a course of three lectures before this University on: "The Future of Animal Ecology," which my generation, at any rate, found exciting. His last paragraph runs:

"The real life of animals is a compound of many things: fixed and predetermined limits impressed by the environment; the relations of the sexes; the survival of the things that are useful; a certain free will in the matter of choosing between good and evil surroundings, accompanied by a great deal of movement; a fairly large amount of pure chance; and sometimes a growing stock of new ideas born out of contact with new situations."

Some of the factors, then, are Predeterminism, Sex, Materialism, Free Will, Destiny, Originality and Tradition. I would suggest that it is the limiting factors of the material environment that are important, for they inexorably control the scale on which the drama can be played on any particular stage. Man can only make a paradise of a certain size in his parish, but he can make a desert of the whole world if he chooses to go on doing what he has done through whole tracts of Asia and in the American dust-bowl. Even in food production the value of that technological improvement of the environment which is called civilisation, is relative, it seems, to the increase in population it produces. Our very success is the source of new problems. I would suggest that, overriding Elton's factors, is the dominant factor of population pressure, man in the mass. So much for the study of man as the biological entity he is.

But Archaeology, as a branch of the study of man, has its own special standards and methods. Its boast is that its methods are objective, and that boast must be preserved. Recently, after more than a century of trial and error, field archaeology has proved its right to be regarded as an exact technique. But excavation is only the beginning of our study. If the much vaunted objectivity of Archaeology is to be maintained, no field-report, no mere book, can take the place of the objects concerned in the student's eye, or, indeed, in his hands, and that means strict collaboration between the field-archaeologist and the museum-curator. They may call each other names, but the lion and the lamb must lie down together, must collaborate, if Archaeology is to be saved from a literary grave. Excavation is expensive. It is a trusteeship that presupposes careful planning, and that, too, can only be done with the material cultures concerned on view, that is to say, in the Museum and the Museum Library. In fact, Archaeology begins and ends in the Museum, though it is to the adventurous field-archaeologist that we look for new material. Whatever he and, later, the museum-curator, may have to say, it is the objects which speak the real language of Archaeology. They must be allowed to tell their story. That is why this

Institute has a museum, and why the Academic Board has recently discussed the important problem of the proper training of museum officers for which there is, I am glad to say, a demand.

One other point. I have more than once suggested that History is a dimension and not a subject, but, even in the accepted sense, it does not rival or clash with Archaeology. Indeed, it can with advantage learn from Archaeology something of the technique of the study of material culture, of the things man has use for, as well as the things some men write. In the same way, if the archaeologist is wise, he will not leave the study of the written records to the historian, but will welcome his collaboration. Specialisation is not necessarily good in itself. It is mainly the outcome of want of time and energy, and that is why I have always stood for regional studies. Science presupposes the desire to know. By the accident of birth, I want to know India. How can I divide my interest in the ploughmen and goldsmiths, and carpenters and bankers who have left the record of their names and piety on the walls of the Buddhist monasteries in the green hills that look down upon Bombay, and my interest, my intense interest, in their descendants who throng the streets and trams and suburban trains in the modern city below? How am I to learn how pots are made, except from the potter? Archaeology is the study of man. The idea of antiquity, at any rate, of great antiquity, is not essential to it. Indeed, the cult of extreme antiquity has blinded us to the gaps in our knowledge. How little we know of the archaeology of Egyptian and Ptolemaic trade in the Red Sea, of Arab trade to Madagascar, of Persian trade to South-East Asia, of ancient Arabia itself, and above all Sassanian Persia, a classical civilisation in every sense?

We study the past in the present, and, unless we are aware of the problems of today, we are unlikely to be aware of the problems of the past. I suspect that for the proper study of man we need an experience a little wider than the sites we dig and destroy, and their relics in museum cases, can give us. The significance of our studies does not lie in mere antiquity, but in our own sense of the emergence and significance of tradition. The most ancient empires of the east are dead. Athens is altered and Rome is not what it was. Only in China and in India does the past live, an unbroken tradition, for, at any rate, over two thousand years.

I speak of the Indian tradition, and I must defend my use of the term. I do not, of course, deny the rich variety of the land. Its social texture is as varied as its beauty, which I have always found sur-

passing. Admittedly India has many languages, and the text-books make much of caste, a Portuguese word which has acquired a meaning that cannot be translated by any Indian word; it is not *varna*, nor is it *jāt* or *jāti*. History does not support the idea of an essentially divided India. At many periods, there has been no Muslim problem in Hindu India and no Hindu problem in Muslim India. Moreover, throughout the centuries since Kutbu'd-din employed Hindu masons to raise up his great *Strength of Islam* Mosque upon the ruins of the oldest of the Delhis, there has been a free exchange of services and goods from the centres of population of the one faith to the centres of the other. The plough and the harrow and the seed-drill used in southern Madras are the same as those used in the Panjab. The potter's wheel, the spinning wheel and the weaver's loom are the same, and so is the women's jewellery. In spite of the multiplicity of languages, the turn of phrase of the proverbs which are the poetry of village speech, is identical as are the songs of the countryside, both words and music. And all this must be set against the same background of the changing seasons, from seed-time to harvest, dominated by the vital importance of rainfall. It is not for nothing that all over India, the well, or the tank, or whatever river there may be, is the focus of the social life of the village. The picture is poetic, but as a corrective to the possibly sentimental, the bucket swinging at the well-head is factory-made and many of the roofs in sight are of corrugated-iron, and in the village-square beyond there is a motor-bus, one of the thousands which, bumping and rattling across the dusty roads, have given the country a new unity. What matters, of course, is the talk. I have always encouraged European students to learn one of the great Indian colloquial languages, apart from the classical language our syllabus demands. It will enable them to read what their Indian colleagues choose to publish in their own language. It will make them free of society, and that will ensure a just appreciation of the living tradition. I suggest that what lies between pedantry and scholarship is nothing but the ability to distinguish the dead fact from the living fact.

What I have described as the rich variety of India does not encourage generalisation in those who study it. It is now some time ago that I suggested a way of looking at India which I still find useful. There is, I would suggest, to begin with, city India, its oldest units strung out, firstly along that most ancient highway, the Ganges Valley, and secondly along the coast, where good anchorages permit the sub-continent, so to speak, to meet the sea-ways. These two

kinds of city, these two distributions, are linked by India's three great north roads, slavishly followed by the modern railways. To the east, there is the coastal road, from modern Madras via the ancient ports of the Kistna and Godavari deltas, to modern Calcutta, the road which enabled Asoka to conquer Kalinga and to repent of it, magnificently. To the West is the Rajputana road, linking Ptolemy's Barrygaza and Mughal Surat with Ujjain, Mukandwara, and Kotah and Bundi and Mathura. In the middle, the time-table of the G.I.P. mainline is an archaeological epic, Nasik, Burhanpur, Sanchi, Bhilsa, Deogarh, Lalitpur, Agra, Mathura, Delhi. Professional specialisation lies behind the progress from pack-transport to wheeled transport, from the river-boat to the blue water sailing ship. Doubtless trade or barter in raw material came before commerce in finished goods. Cities are the monuments of specialised skill. The price paid is a heavy one, for the concentration of populations who do not produce food, renders the city parasitic on the land. Round about the city lies the soil from which it vicariously draws its sustenance: it is the cultivable area, utilised or not utilised, that sets the limit to urban development.

Between the cities, on their main lines of communication, the high roads, stretches out the India of the villages, linked only by fair-weather roads with the market-towns, where the agents of the vested interests of the cities set the prices and the standard of living. Here, again, the lower limit of productivity controls the possibilities of village life. Where the fertility of the soil, or the rainfall, drops below this limit, the desert manifestly reaches out its fingers towards the fields man makes and lives by. But the Sahara of our school books is not the only kind of desert. The rich green valleys of Hindu Kush, islanded among barren peaks, have all the properties of oases; clearings in forests are oases, too.

Where the cultivable plain gives place to uplands or forest tracts, or where the anopheles mosquito, or hookworm, has reduced manpower below the pressure necessary for organised village life, that is to say, in peninsular India, the manpower necessary to keep the jungle out, a third India comes into its own, the India of the hill and forest peoples. Their unit of life is the tribe, marked off by language and custom and a certain persistent sense of individuality. Culturally they form a recognisable whole, though the Bhil speaks Hindi, the Khatodi Marathi, the Chenchu Telugu and other Munda tongues that are neither Aryan nor Dravidian. If this cultural likeness is accepted as historical, and it is, at least in part, borne out by physical likeness, most of these people once spoke Munda tongues, though their present

distribution need not be ancient. They are important archaeologically, not merely because they represent a stratum of the population, but because they account for certain aspects of the map of India. The boundaries of many of the administrative districts and the remarkable fragmentation of Indian States, large and small, across Central India, that crescent-shaped shatter-area which Sirdar Patel has recently been busy with, is largely accounted for by their distribution. I do not want to suggest that these most ancient peoples do not belong to India. Many of them have already found a place in village India, or, at least, in seasonal industry. Others are in process of being absorbed. I have no doubt that they will make their contribution to the India that is now being shaped, though I hope we shall be able to study them first, for many of them have not been studied at all.

And now to practical experience: I suppose I might claim that my interest in archaeology was first aroused by visits to the excavations at Sirkap at Taxila as a child. But my interest was purely personal and not at all objective. I was entranced at the army of diggers, who were only too pleased to lay off the job and talk, and share, for me, illegal sweets and *birhis*. It is typical of the difficulties Indian Archaeology has laboured under that, owing to a series of disasters, we have not yet been given the definitive volume on this great site. My real initiation took place on my return to the Indian Army, when, while marching with the depot of my regiment up the great central North Road, an Indian officer, a Muslim, asked me if he might drop behind in order to visit a thing of wonder. I accompanied him and found myself at Sanchi. The late Government of India has, at times, been bountiful in publications, most of which have gone to feed the white ant in out of the way offices. While awaiting an official interview in the Jhelum Collector's office, I found a handful of fragmentary pages, preserving part of the text of the great Allahabad Gupta inscription. This was first read by Prinsep in his office at the Calcutta Mint, not quite a hundred years ago. At his shoulder stood a young Lieutenant of Engineers, one Alexander Cunningham, who lived to invent the post of Director-General of Archaeology in India and to fill it himself, Lord Canning consenting. His blue-bound reports of tours are the foundation of our study, the record of a man who learnt India by walking it. Guided by him, I went to Bhita and Basarh and a good many other sites, including Harappa, in 1918. Like him, I went on my flat feet or in a bullock-cart, as I think the poor scholar should; it is nearer the earth. Even later, with the

modern series of Survey Reports in my hand—like others I found them expensive to buy and heavy to transport—the result was discouraging. At Bhita, that wonderful site, I read of pottery fabrics that were described as “polished,” “painted,” “varnished” and “glazed,” but could not find them. It was only after a precious day spent on turning over a dump of spoil-earth that I plumbed the depths of technological inexactitude, and realised that all these names stood for but a single ware, the famous black polished ware, which is still a problem to us.

A period of sick-leave gave me the opportunity of travelling in Madras. I thought it worth while visiting certain of the sites where hoards of Roman coins had been found. This took me to the road that leads from the Tamil plains to the Malayalam coast between the northern scarp of the Nilgris and the Mysore forest. There I found graves of more than one type, and returned on my tracks to visit the two cemetery sites which had been excavated by the Survey. I was not impressed by their alleged antiquity, but was interested in certain etched carnelian beads in the Madras Museum. I was told by someone that he had heard that a Mr. Cammiade had said that fragments of Greek amphorae had been found at Cuddalore. With the *Periplus* and Ptolemy in my pocket, I walked a good many reaches of this coast; and after picking over innumerable rubbish-heaps, became aware of the masses of glass beads of distinct types which occur at these sites, and which I had never seen in the north. This work remained fallow until, long after, Horace Beck walked into my office at the Museum and asked me to identify certain beads. I took sample specific gravities and refractive indices and told him that they were southern Indian. They came from Pemba Island, and later Miss Caton-Thompson found some of the same types at Zimbabwe. Later on Mr. Beck, Mr. Cammiade and I summarised what we knew of the south in the Indian number of *Man*, published by the Royal Anthropological Institute, which I edited.

I returned to the North-West Frontier and had the good fortune too see a little of a great deal of it, from Fort Sandeman to Bannu, to Malikand and Chitral. I went to the Charsadda, Pushkalavati, the Peukelaotis of the Greeks—who would not? It stands at the junction of two rivers and behind it lies a low ridge filled with the remains of what is still called Hashtnagar, the Eight-Towns. There I pursued my painful cult of rubbish heaps, and was plentifully rewarded. The productivity of these sites is incredible to those who do not know them. Standing on the barren gravels, where still treeless Risalpur

had been planted a few years before, I found it hard to believe that this desert could ever have supported the population which the almost endless series of mounds bore witness to. There were other things I could not understand, too. For instance, why should the land between the Attock-Peshawar road and railway, and the Cherat hills, good land recently planted in parts with peaches, why should it be absolutely barren of habitation sites?

Let me, for once, begin at the beginning, and develop a theme which may interest my colleagues of the School of Oriental Studies as fertile soil for collaboration. For it is only by collaboration, here and in India, that Archaeology can find a place in Indian studies.

The dating of the Harappa culture depends upon Western parallels. In its two main sites, Harappa itself, and Mohenjo-Daro, it is displayed as a city culture on a considerable scale, and it is clear that it endured a very long time. Its origins have been discussed with reference to certain other cultures on a smaller scale, found to the west of the Indus, which are regarded as extensions of the Northern Iranian red ware culture and the Southern Iranian buff ware culture. As far as the Iranian sites are concerned this is good typology, as far as it goes. However, my impression is that certain of the Indian sites, the Zhob group, for instance, produce a number of other kinds of pottery, which have not yet been considered. We are, therefore, dealing with a related typology and not with cultures in the true sense. However, Professor Piggott is enabled to distinguish between the culturally diversified hill country in its poverty and the unified Indian plain in its wealth. In discussing the Quetta sites of the hill group, he says that two natural routes from Iran converge upon the Bolan Pass below Quetta, and identifies the northern route, which Anau carries back to the 4th millennium, with the medieval silk route. We are, however, not concerned with east and west trans-continental contacts, but only with a definite contact between a group of sites in north Persia and a group of sites to the west of the Indus. The road from Herat to Kandahar is an ancient road: Alexander used it, and it was by this way that the Saka-Parthian invasion of India took place in the second century B.C. However, it must be admitted that there is no archaeological evidence that this was the route used by the bearers of the red ware types to India. Between Kandahar and the Bolan lies the Khojak Pass. Indeed, the Bolan is not the natural issue of the Herat-Kandahar road to India; the Gomāl is, and that, too, is an ancient and still well-trodden route. The Zhob is a tributary of the Gomāl, and although, from the modern

engineer's point of view, there is an easy approach from Quetta via Pishin to the Zhob, the ancient route was undoubtedly Herat-Kandahar-Gomal-Dera Ismail Khan. The Lorelai sites link the two regions. The Baluchistan sites are, of course, on the direct central Persian high road that runs south of the Seistan-Helmand depression to Kerman, Kashan (Sialk), and Hamadan (Giyan).

It will be seen that Seistan lies in between these two high roads, the land of the Sakas, once the granary of Asia. It is clear that the dead prosperity of this area was derived from the waters of the Helmand, for the alluvium of the depression is ringed around by sterile sand and rock. The Helmand is a forceful river. It is only useful when harnessed by an elaborate system of weirs and canals. How far does the Seistan irrigation go back? The point is of considerable interest, for irrigation from rivers by means of weirs and canals was not practised in ancient India. It is probable that the Seistan system is not ancient; indeed, it seems to have reached its zenith in Muslim times, and this is borne out by a survey of the existing irrigation systems in Afghanistan, both Qanat and Karez.

How then, did the Harappa peoples live, not only in the two big cities, but at the lesser settlements in Bahawalpur, where today the limit of fertility is so well marked?

In modern India, there are three ways of farming, three rural techniques. In the heavy rainfall areas, the Eastern and Western Ghat coastal strips and the Eastern Himalayas, the rainfall is sufficient for terrace-cultivation, which is really a soil-conservancy technique, and runs through Burma to China and South-Eastern Asia. Where there is a reserve of water in wells or surface drainage tanks, farming is based on a two harvest a year plan, a rain crop and an irrigated crop. Where there is no reserve of water, only a single harvest can be got. Now, across the river just below Jhelum City, there are traces of ancient terrace cultivation, which is impracticable with the present rainfall. It is known that the dry gravels of the Peshawar Valley, which struck me so forcibly, provided a hunting-ground for the Emperor Babar in the sixteenth century. The Sulimani Range, south of the Gomal, is described as sunscorched and treeless, but above the tamarisk scrub of its lower slopes, rise well-wooded areas of wild olives, junipers and edible pines. North of the Gomal, and throughout the Koh-i-Baba and Hindu Kush uplands and ridges, there are extensive tracts of mixed coniferous forest, a remnant spared by man and his even more destructive satellite, the goat. Moreover, the rivers in this area, for instance, the source of the

Kurram which rises from the precipitous south face of Sika Ram the culminating point of Sufed Koh, never fill their beds. On both sides of Sufed Koh there are sterile boulder strewn waste-areas, which seem to me to be recent. Hieun Tsiang, who traversed this country at the beginning of the seventh century, describes it as being thickly forested, and his description is confirmed by a remarkable fact. There are no monuments in the upper Kurram. Where Buddhism flourished and every surrounding valley has its Graeco-Buddhist monasteries, Kurram is blank.

The easternmost Harappan site is Kotla Nihang Khan near Rupar, where the Sutlej breaks out into the plains. The corresponding tract of the upper Jumna shows no signs of ancient habitation; indeed it still bears considerable remnants of the primeval sal and palas (*Shorea robusta* and *Butea frondosa*) forest of the northern plains. Lastly, turning to the west, except for one Jhukar button seal, produced by one of the Rawal Pindi dealers, I have never seen or heard of any object which could be associated in any way with Harappa, being found in the Kohat or Peshawar valleys or, for that matter, on the Indus watershed, nor the Jhelum, north of the Salt Range.

I suggest that the Harappa settlements, supported by a single harvest farming technique, could only have come into existence with a much higher rainfall than at present. It also seems likely that the possible area of such a culture was restricted by forests, remnants of which have survived until today.

Professor Wheeler has, at last, dared to put his finger on the elusive Aryans and to suggest that the intrusive culture of Cemetery H at Harappa is their work. Quite rightly, he quotes the Rigveda to show that memories of attacks upon stone-walled forts survived in the hymns. The hymns suggest that the Vedic Aryans were faced by a well organised opposition on a considerable defended front. Could such a civilisation have arisen between the end of Harappa and the coming of the Aryans? The question is legitimate, but it is a little one-sided; the viewpoint is still from the west. Let us not forget that the hymns are hymns, not histories, nor how meagre the Irish sites actually are, which the poets made so much of. If one asks: "What did the Aryans do to India?" one should also ask: "What did India do to the Aryans?" The hymns make it plain that there were other Aryans behind the Vedic Aryans, who were not quite out of the top-drawer. These *Vrātyas* were presumably to the west, laggards behind the pioneer vanguard, who were so confident of their superiority in

the face of the enemy aborigine. We cannot estimate the numbers concerned, though the survival of their language and literature (the misuse of the term may draw attention to the problem as to how these works, prose as well as verse, did survive) indicates that they were not few. As to their route, three frontier rivers are mentioned in the *Rik*—the Gomāl, the Kurram and the Kabul—and with these names in hand, historians of Sanskrit have contrived to speak of the Aryans traversing the classic route across Hindu Kush. So the attack on Harappa was preluded by a march! However, one thing is as clear as anything else, that the Aryans did not march as an army; they moved forward as a people.

There is no evidence whatsoever that they or anybody else crossed Hindu Kush in ancient times. Alexander with great difficulty crossed it from south to north; the Greek princelings crossed it from north to south, and shortly afterwards lost their Bactrian territories. The Kushans ruled on both sides of Hindu Kush, though the centre of their power lay on the Indian side. Gandharan Buddhist painting had spread from north-west India to Miran near Lop Nor before the lake shifted northward and left the site, and the road that ran through it, waterless, at the beginning of the fourth century. The accounts of Fa Hien's and Hieun Tsiang's pilgrimages make it plain that the journey from China to India across desert and mountain was never less than dangerous.

Besides the ancient Gomāl road to India, there is the continuation of the Herat-Kandahar route northward through Ghazni to Kabul, and so roundabout to the Peshawar Valley and the Punjab. North of the Gomāl, the Tochi links the Ghazni plateau with Bannu, marked by the famous Akra mound, now almost entirely destroyed. The few surviving Akra antiquities at Lahore and South Kensington show that the site flourished from the fifth century to the Muslim conquest, was Brahmanical not Buddhist, and had close contacts with contemporary Persia. North of the Tochi, the Kurram links both Ghazni and Kabul with the ferry at Kushalgarh, where the Indus emerges from the defiles of the Salt Range. It does not seem to have been used in historical times, until the coming of the Mongols. All these routes are nowadays well proved and, at any rate, in spring and early autumn, provide good grazing without which even small bodies of men with women and children and cattle cannot move at all. The spring in these parts is short and the summer sun rapidly destroys the grass, leaving only scrub fodder. In autumn the frosts destroy grass and leaves alike. However, a slight increase in the present rain-

fall would probably make all these routes practicable from the melting of the snow in spring to early winter. The picture suggests an infiltration by various routes into the Indian plain, before which the main body of the emigrants must have passed across the Kandahar plateau. Once again, the great historical interest of this region is apparent. Of all the areas I have seen, it is not only the most interesting, but the most hopeful from the point of view of field-survey and eventual excavation. After the lapse of the French Archaeological Delegation's monopoly in 1951, I am told that the Afghan Government would welcome field research, and I hope that a British expedition will be possible.

Harappa is a long way from the passes which lead to India. If the Aryans entered India by the Kabul valley or the Kurram, they must have continued along the skirts of the Kashmir hills to beyond the Jhelum, for the Salt Range here blocks the road to the south. If they entered by the Gomāl they must have been faced by the Bahawalpur Harappan settlements. If the Harappans were the well-armed fort-builders of the Vedas, parallels to Cemetery H at Harappa should be found in this region. However, it seems that this culture is as distinctive in the ancient east as it is locally at Harappa. Ghirshman's general picture of a cultural penetration from the Caucasus via Sialk, Giyan and Luristan does not discover an Aryan culture, but only change and typological parallels. Von Heine-Geldern's adze-axes from Hissar III, B. and C. do link up with the Mohenjo-Daro axe and the Shalozah axe, the solitary antiquity from the Kurram. But these and a few parallel forms of spearheads and daggers and pins do not form a culture. The Aryans continue to elude us, if they are not in Cemetery H.

Looking eastward, however, there is one other group of facts that has a bearing on the subject. The distribution of the neolithic spade-shaped or tanged adzes found in India covers French Indo-China, Siam and Burma, up to a line running from somewhere about Allahabad due south to the Narbada. That is to say then, they belong to south-east Asia and only spill over into India. Father Schmidt identified the Mon-Khmer languages of Further India with the Munda languages of India, under the general heading "Austro-Asiatic," which invites the assumption that the makers of the tanged adzes were Austro-Asiatic, or, at any rate, speakers of a proto-Munda language. Schmidt's generalisation has been challenged linguistically, but it is admitted that the modern Munda languages do show traces of Mon-Khmer influence. It is also a fact that certain of the Munda-

speaking peoples show Mongoloid racial characteristics. Moreover, the area covered by the tanged adzes shares a number of survivals which suggest an underlying cultural unity. In point of fact, the area is a distinct geographical unit, its main features being its rain-forests and big rivers. In any case, since the tanged adze is not found in Indonesia, it must have been developed before the Austronesians broke away from the Austro-Asiatic folk of the mainland to lay the foundations of existing Malayan-Polynesian ethnology.

In any case, we are justified in asking a number of questions: What were the relations of the forest-dwelling adze-makers with the Harappans? Furthermore, if the adze-makers were Austro-Asiatic, where were the Dravidians when the Aryans reached the Ganges via Cemetery H or otherwise? Were the Harappans Dravidian-speakers? Or were they trading, sea-going foreigners who, with their Mesopotamian correspondents and their sealed and guaranteed commodities had come to dominate a Dravidian peasantry? Our colleague, Mr. F. J. Richards, to whom I personally owe so much as a teacher, long ago pointed out that the conception of three historical, ethnic groups in India, speaking the three surviving basic Indian languages, is defensible in terms of physical anthropology. At any rate, the Dravidians of the Tamil plains, that great arena of Indian culture and history, are distinct from the hill and forest peoples, who may be called pre-Dravidian, for they are islanded in their special areas in the Dravidian south, just as they are in the Aryan north.

Of the Dravidian languages we know nothing till the beginning of the Christian era. Literary scholars, on the basis of the Sanskrit tradition of the *rishis* of the southern forest, and the poetic romance of the *Ramayana* have assumed that the Sanskritisation of the south took place at an early date. When Professor Wheeler went to India, a day marked in the annals of Indian archaeology, no habitation site had been excavated in the south. My own knowledge of the area was limited to a prolonged and painful study of surface finds. But I had learnt to distinguish one ware, which I believed to be associated with the great Andhra dynasty. On two occasions I found it associated with the black and red grave pottery, and once, near Hyderabad, in association with actual graves. These sites did not provide the beads of the coastal sites, which I was fairly certain were Pallava, that is to say, running up to the seventh century A.D. At Brahmagiri, Professor Wheeler proved that the porthole cist graves antedated and overlapped the Andhra period and could be dated first-third century B.C. Beneath lay a poor, almost metal-less, in fact, actually iron-less,

culture, with microliths and polished stone axes. We were prepared for this by a number of site observations and also by the rather superficial excavations at Maski in Hyderabad, and above all by the fact that even in the north the earlier strata marked by the black polished ware thin out culturally noticeably at a slightly earlier period. No town site in the north can be carried back to the period when the Buddha was alive. This, in itself, should have been a warning to the literary historians. In the south it is clear that they must abandon an early dating for Tamil literature and, I believe, for the Sanskritisation of the Tamil lands.

I have not chosen to survey the archaeology of the north today, a subject with which I have been deeply concerned for some time, because if I did, I should have to traverse Dr. Tarn's voluminous work. Owing to the terms of Sir John Marshall's criticism of Dr. Buchthal's British Academy lecture in which he, rightly as I hold, derives Gandharan art from Roman prototypes, I must wait until Sir John's Taxila volume is, at last, available. We now know that the hoards of Roman coins found in southern India were the product of a well-established sea-trade. The Kushans in the north minted gold coins which reflect Roman influence and imported Roman *objets d'art*. From inscriptions at Nasik we learn that two kinds of gold coinage were in use. The Kushan coins are specifically named, but reference is, also, made to *suvarṇas*, gold coins of unspecified origin, which must refer to the southern Roman coins for there were no others. It has been assumed that the trade of the period was predominantly by the sea routes and the Roman bronzes from Taxila and Begram certainly point to Alexandria. But the land routes cannot be neglected. The Parthians controlled this trade and successfully resisted Roman aspirations in this direction. But whatever happened in Mesopotamia, the Arabian routes to the Persian gulf and the Black Sea-Caspian routes were open. There is, indeed, some archaeological evidence bearing on the subject, for the Parthian levels at Seleucia are more Greek than the underlying Hellenistic levels upon which Dr. Tarn's thesis of an essentially Hellenistic East must, in the long run, stand or fall.

All our inscriptions from north to south, until the decline of the Andhras, are in Prakrit, not in literary Sanskrit. But the Prakrit of the Kushan inscriptions is increasingly Sanskritised. I can only say that I am surprised that no literary scholar has followed this interesting and important evidence to its conclusion. The history of the period is well-established. Gujarat (Surashtra) was in the hands of a

Scythian dynasty, probably connected with the Kushans. They controlled the ancient port of Broach and were in conflict with the Andhras over the control of the ports of Salsette, where modern Bombay lies. The names of the kings concerned were known to Ptolemy, and Jain traditions preserve the outline of what happened. Professor Wheeler's greatest contribution, the excavation of the Roman trading-station at Arikamedu, near Pondichery, throws floods of light on the issue of the conflict. We know now that Roman trade had already rounded the horn of India in the first century A.D. and that the Andhras turned eastward to meet it, centring their power afresh on the east coast, where the Kistna and Godavari ports provided blue-water shipping with good anchorages.

When the Andhras disappeared in the fourth century, the Chuttus, who followed them, and, what is more the Pallavas, a wholly southern dynasty, still used Prakrit, though the Pallavas went over to Sanskrit a little later on. A study of both Tamil and, I believe, Malayali shows copious Prakrit borrowing. Professor Wheeler found Tamil graffiti at Arikamedu and others are known, but the great Tamil epics cannot be dated much before the second century A.D.; their form presupposes a knowledge of the Sanskrit epic tradition. Recently Dr. Morgenstierne has drawn attention to scholastic Sanskrit influence upon the languages of the Jalallabad-Chitral area. Is it possible that the Sanskritisation of the south was of this order and that the instrument was the schoolmaster, grammar in hand? That its effect was limited is obvious, for under the Pallavas Tamil literature flourished and under the Cholas Tamil was the official language for all but priestly purposes. The Tamil plains are equalled only by the Ganges valley in richness and density of population. It is obvious that the culture of the north never submerged the culture of the south, and it remains in many ways distinct today. In the north the high population is made possible by the Ganges. In the south, it depends upon a complicated and skilful system of surface drainage tank irrigation, using trimmed ashler for its dams and sluices. Where did the southern Indian irrigation engineers get their technique and inspiration? The nearest parallels are in South Arabia.

The Archaeology of the Roman Provinces, and Beyond

INAUGURAL LECTURE DELIVERED ON OCTOBER 7TH, 1948

BY R. E. M. WHEELER

Professor of the Archaeology of the Roman Provinces

IT is my honourable task to inaugurate a Chair established by the University of London for the study of the archaeology of the Roman provinces. Precedents for such an occasion authorise me to adopt one of two courses: to philosophise upon the nature of my subject, or to define my practical approach to it. Since the Chair is a new one in our academic furnishings, I choose mainly the latter, as of earlier moment. The subject is an immense one, and it is only fair that I should at the outset indicate something of my own appreciation of its needs and urgencies, and of the fashion in which, during my incumbency, your new Department will set to work.

First, a word on the more general approach. If we survey a reasonable proportion of the vast literature which deals with the Roman Empire, we have to admit that that monstrous political experiment has had on the whole a bad Press. Annaeus Florus in the second century and Mr. Toynbee in the twentieth have agreed to write off the Imperial epoch as one of unsteady decline from the sharp summit of Hellenic and Republican achievement. The Roman Empire, Toynbee declares,¹ is merely a monumental symptom of the far-advanced disintegration of the Hellenic civilisation; he will allow it no substantive status. And the thin voice of Florus,² trickling down the ages from the time of Hadrian or thereabouts, already deplores the *senectus imperii* and complains that within the first two

¹ A. J. Toynbee, *A Study of History* (abridgement by D. C. Somervell, Oxford, 1947), p. 261, etc.

² L. Annaeus Florus, *Epitomae*, I, introd. In a similar sense, the philosopher Seneca is quoted by Lactantius (*Div. Inst.* VII, 15).

centuries—the heyday—of Roman imperialism, the Roman people, as it were, became senile and used up (*quasi consenuit atque decoxit*). That is of course an arguable and indeed much argued generalisation. But at least it cannot be gainsaid that by the end of the second century the history of Rome had become the history of opportunism on a scale which has never been approached by the most maligned imperialism of more recent times. And when we regard such phenomena as the regimentation of economic life in the third century or the regimentation of religion in the fourth, desperate attempts to discipline a dissolving world, it is the negative aspect of Roman civilisation that holds the eye. I suppose that any study of the economy of the Roman Empire must leave the most detached student with a sense of frustration and depression which receive an added actuality from our present condition. Remedy, or at least consolation, has been sought in an increasingly materialistic approach to history, including history in the making; and Messrs. Marx and Engels, who are liable to find themselves in various company, have of late unblushingly and assiduously been courting Clio. Nor can we fail to discover a considerable measure of compatibility in this union. Nowadays, whether we like it or not, we are all in some sense Marxists at heart, just as we are all Newtonians or Darwinians. Historical materialism, by whatever name we call it, has interpenetrated the fabric of our studies; so that (for example) whereas our predecessors, describing the Later Roman Empire's headlong rush to perdition, might have said unthinkingly that the horse ran away with the cart, we know better: we good materialists know that the cart ran away with the horse. I confess to an occasional misgiving, to a fear that we sometimes carry this orthodox materialism too far and cultivate the flesh at the expense of the spirit. Who (unless Mr. Norman Douglas) cares today what song the sirens sang? Again as good materialists, we pluck their feathers and count their vertebrae and decide that they were penguins.¹ But I must equally confess that it takes all the objectiveness inherent in the materialistic approach to prevent us Romanists from regarding the history of the Roman Empire as a rather ponderous cautionary tale in somewhat questionable taste.

Our concern here and now, however, is less with the central Empire itself than with its victims—victims who in a measure were also its masters. And at the outset I would get this important matter of orientation clear. It was long our normal habit to survey the Roman Empire through the eyes of Rome or Byzantium, to regard

¹ Acknowledgment to *Siren Land*.

the provinces primarily as imperial problem-children with troublesome idiosyncracies, rather than as integral personalities. That viewpoint was of course due in part to our traditional classical curriculum and in part to the accident that in north-western Europe, our nearest field of study, the gulf between the Roman and the Native societies was exceptionally wide. It was also due in some measure to a natural instinct on our part as Britishers to project the emotional reflex of our own imperial achievement into the Roman context, and to identify (however subconsciously) the proconsul with the *burra sahib*. A Chair with the title, not of "the archaeology of the Roman Empire," but of "the archaeology of the Roman Provinces" enables us to correct this long-standing prejudice. And to do so is in accordance with the temper of the times. Today we have as much concern with those remarkable examples of Celtic craftsmanship which Sir Cyril Fox has studied so penetratingly from a mere in Anglesey, as with the legions which may have occasioned their original loss; and the Iranian artistry described by Rostovtzeff from Dura-Europos is at least as significant to us as are the Roman and Sasanian siege-works which marked the end of the city. No longer ago than my own boyhood, the history of England began with the moment when Caesar's standard-bearer leapt into the sea off the coast of Kent. The provincialisation of history has certainly travelled a long way since then; it has still far to travel.

But there is another re-orientation of which I will speak at somewhat greater length. The general tradition of humanistic education is sufficiently familiar to us, and I need not remind you that, since antiquity, it has been based on literature and philology. As recently as a generation ago it was still possible to take a First in Greats at Oxford without even glancing at a Parthenon sculpture or an Attic vase. The Roman schoolboy and his modern successor have alike been stuffed preponderantly with Vergil and Homer, an excellent stuffing in its way but deficient in vitamins in an actively materialistic age. Scholarship, the *Oxford English Dictionary* reminds us accordingly, is "learning, erudition; esp. proficiency in the Greek and Latin languages and their literature"; with the addition that formerly the scholar was often "one who had studied at the university, and who, not having obtained any fixed employment, sought to gain a living by literary work." In this context I may recall one of the questions in J. M. Barrie's Fleet Street examination for budding journalists:¹

¹ *When a Man's Single*, chap. ix.

"Question: '*Pabulum*', '*Cela va sans dire*', '*Par excellence*', '*Ne plus ultra*'. What are these? Are there any more of them?"

"Answer: They are scholarship, and there are two more, namely '*Tour de force*' and '*Terra firma*'."

Even today, when the major part of our study of mankind relates to peoples and ages which have left no intelligible relic of their speech—to the *Mlecchas* or Dumb Ones—I still detect an occasional survival of the traditional restriction of the term "scholarship" to philology, as though the scientific revolution of the Victorian era had never occurred. And I want to take the occasion of an address not unconnected with the traditional media of scholarship to make plain the nature of the newer scholarship to which I prefer to adhere. To stand up in a university, even today, and deny the primacy of linguistic studies in scholarship is like standing up in church and denying the Deity. Nevertheless, ladies and gentlemen, I stand before you here and now in this eminent university and absolutely deny the primacy of linguistic studies in modern scholarship.

The first blows to the literary tradition of humanistic research were struck before the middle of the nineteenth century by men like Christian Thomsen, who first classified the contents of a National Museum on the basis of *material*, and Boucher de Perthes who identified the handiwork of geologically remote people in chipped flints from the ancient terraces of a river-valley. At the time it is to be supposed that scholars of the established kind remained unmoved at their classical text-books or in the shady environs of romantic Roman ruins. But in fact from that moment onwards, with increasing rapidity, the orientation of classical, no less than of prehistoric, archaeology has undergone a radical change. De Perthes and his scientific contemporaries were, in a limited archaeological field, the first great materialists, as my friend Professor Gordon Childe is the latest and most brilliant in a field that is now commensurate with human existence. The revolutions of human culture, represented primarily by an evolving equipment, have with increasing insistence dominated the humanistic scene; and that scene has, in my own lifetime to a very much greater extent than ever before, taken upon itself the cold objectiveness of natural science. We insist today upon technological development as the basis of history—a firm objective basis amenable to scientific observation. On the other hand human motives, once supreme, are nowadays at a discount. "Motives," Professor Childe maintains,¹ "are in fact hardly capable of genuine

¹ V. G. Childe, *History* (London, 1947), p. 77.

historical study." Man's labours may be lubricated with a little sentiment in the form of ideologies, creeds and loyalties, but he is essentially a tool-making slave. Man is, as it were, a living fossil; God may be expressed as an algebraical formula or a circumambient gas. Mankind, his works and his ideas are subject literally and completely to the mechanism of natural science. In this view we are right—nay compelled—to regard our historical and archaeological episodes and materials as the natural historian might regard the chromosomes in the nucleus of a wheat-cell. The study has become the laboratory.

The danger inherent in this generally desirable trend is manifest. Science has threatened to produce what I can only call a sort of dehydrated humanism; alternatively, there is a real risk of our learning to regard man as five-shillingsworth of chemicals rather than as the casket of a soul. By way of sub-conscious compensation, I see about me today a tendency towards a new latter-day animism which would attach to a stone axe or a potsherd the sense and sensibility that only properly belong to their fabricators. We begin, in all innocence, by talking of "battle-axe folk" and end by personifying battle-axes; somewhat similarly, ladies and gentlemen, might we classify you as "penknife folk" and end by attaching your personalities to the penknives in your pockets.

Recently, Cambridge has uttered a considered protest against this extreme form of materialism. "My concern," declared the Disney Professor of Archaeology in her inaugural lecture,¹ "is that the natural sciences should not go on to monopolise a field which does not strictly belong to them—the study of Man as reflected in the work of his brain and hands." In other words, let us give more latitude to that incalculable quality which we sometimes term Free Will, to the variability and irrationality of human reaction and above all to the unknowable extent to which any given *Zeitgeist* may transcend its (surviving) material expression. I hail this protest as a useful and stimulating check upon that materialistic preoccupation from which Cambridge archaeology is itself happily not exempt. It is well that now and then we should be made to review our habits of thought and be jolted out of the complacency which is the fifth column of all disciplines. We owe a real gratitude to the Disney Professor for infusing a welcome glow into the chill marble of our materialism, and I for one am a Pygmalion prepared to worship.

¹ D. A. E. Garrod, *Environment, Tools and Man* (Cambridge University Press, 1946).

But in fact Miss Garrod's admonition is of course a reminder, not a revolution, and is not intended to be more. Cambridge and London are in reality in the same galley. The human mind is a poor critic of itself, but we may fairly doubt whether, in the guise of Free Will or the like, it is in any significant sense valid aside from the routine of natural evolution. For my part, I strongly suspect that the alleged Freedom is merely commensurate with the length of rope which natural evolution sometimes, in playful mood, allows the Will for the purpose of hanging itself. In any case we recognise today that evolution is not (as Darwin thought) a slow and steady progression; we know that it occasionally proceeds by sudden and surprising leaps.¹ I sometimes wonder whether these leaps and jerks, which can be studied objectively in plant-evolution, do not in fact correspond in social evolution to those seeming irresponsibilities and "motives" which we ascribe subjectively to determinism or Free Will. In a longer perspective, difficult for the mind to attain in regarding itself, can we doubt that the saltatory progress of human history is controlled as rigidly by the normal laws of evolutionary development, as for example, is the erratic history of polyploid grasses? True enough, the stone axe is not the man; it may scarcely even rank as an epitome of the complex evolving social and spiritual organism which produced it; but properly understood, it is, I suspect, a true symbol or parable. Only, let us, with Miss Garrod's warning in our ears, give proper importance to those apparent irregularities to which I have just referred and which, in the aggregate, make up the full personality of an individual or a people. The poor little stone axe can, after all, be but a very inadequate representation of these human complexities. "Arms *and* the man we sing"; and do not let us forget the man.

Apropos of this, long ago in 1925 G. K. Chesterton had some hard words to say on the subject of "Professors and Prehistoric Men." Amidst a good deal of nonsense, his words contain a streak of relevant truth. "Science is weak," he affirms, "about these prehistoric things in a way that has hardly been noticed. The science (i.e. non-humanistic science) whose modern marvels we all admire succeeds by incessantly adding to its data. In all practical inventions, in most natural discoveries, it can always increase evidence by experiment. But it cannot experiment in making men. . . . An inventor can advance step by step in the construction of an aeroplane, even if he is only experi-

¹ For examples from natural science, see J. B. S. Haldane, *The Marxist Philosophy and the Sciences*, chap. 4.

menting with sticks and scraps of metal in his own backyard. But he cannot watch the Missing Link evolving in his own backyard In dealing with a past that has almost entirely perished, he can only go by evidence and not by experiment. And there is hardly enough evidence to be even evidential. . . . He (the anthropologist or the antiquary) can only clutch his fragment of fact, almost as the primitive man clutched his fragment of flint. . . . It is his tool and his only tool. It is his weapon and his only weapon. He often wields it with a fanaticism far in excess of anything shown by men of science when they can collect more facts from experience and even add new facts by experiment. Sometimes the professor with his bone becomes almost as dangerous as a dog with his bone. And the dog at least does not deduce a theory from it, proving that mankind is going to the dogs—or that it came from them.”¹

Well, enough of that. After all, the conflict is basically the perennial one between the material and the intellectual, the flesh and the spirit. And we archaeologists will have in the nature of things to be content for the most part to go on cannibalising the flesh, with but occasional and foredoomed attempts to bottle the spirit. Nor—to return to the matter more immediately in hand—need we at present regret the intrusion of flesh and blood into our study of the Roman provinces. Here in a sense the problem of approach is an easy one. Any subject which can boast of Edward Gibbon in its ancestry is already assured of its humanism; the Disney Professor can stand at ease. Our primary need is now rather the application to this historic or protohistoric field of all the materialism that we can lay our hands on. We have turned and squeezed our histories until they have almost ceased to yield the authentic juice. It is time to shake another bough: to apply to the study of our provinces, more amply than hitherto, that objective materialism which is (whether in London or in Cambridge) the essence of our modern prehistory.

In speaking thus, I am fully conscious of the distinguished work that has already been done in this field. After 1892, when at Theodor Mommsen's instigation the German Limes-Commission was instituted, the Germans long led the way, although more lately, since Haverfield's day, we British have run them very close and in recent years have, I think, taken the lead. At the present time, the cessation of organised work in Germany and the forced limitation of exploration elsewhere have perhaps lent a special opportuneness to the establishment of this new Chair here in London. Certainly I feel that a special

¹ *The Everlasting Man*, chap. ii.

responsibility has, in the circumstances, been cast upon my shoulders. And what a landscape has been spread before me! The Roman provinces, extending from the Irish Sea to the Tigris, from the North Sea to the Sahara. For a few minutes allow me to traverse this vast landscape with you and to explore a few of its possibilities.

I start from this ultimate province of Britannia. Here the Haverfield tradition is still admirably sustained by a number of able scholars and excavators, amongst whom, without invidiousness, I may mention Dr. Ian Richmond and Mr. Eric Birley, both working primarily (though by no means exclusively) upon the seemingly infinite potentialities of northern Britain. This small provincial fragment has already been explored with more loving care than any other part of the Empire, and should now by rights be secure from major threat. In fact, however, its problems vary and develop surprisingly from generation to generation, and the formidable army of information and inference which Sir George Macdonald, for example, marshalled only a few years ago is already wavering under new attack from the air. Recent air-surveys, conducted in part under the skilled direction of Dr. St. Joseph, have revealed what I can only describe as a depressing number of new Roman forts, and it is clear that, for a long time to come, the Roman problems of the north will continue to keep Romano-British archaeologists out of mischief. I confess to some sorrow at the thought; for I had begun to hope that at last we should really get down to the unsolved problems of the Romano-British countryside—the nature and extent of the country estates, their economic and social history in relation to the towns and the native villages, their share in the alluring problems of Dark-Age or Medieval England, their meaning in the wider contexts of the history of our country and continent. Connected with this is the vexed question of the numerical extent of the population of Roman Britain. Much has been written about this fundamental problem, but at present the evidence really does not exist; nor can it begin to exist until two or three representative areas (say, in 10-mile squares) of lowland Britain, carefully selected to include country-houses large and small, cottages, villages and if possible field-systems, have been *completely* explored both horizontally and vertically. In this systematic exploration, we may expect incidentally to obtain new and much-needed information on that divergence or active hostility which, in many parts of the Later Empire, characterised the relations between the increasingly effete and bureaucratic towns and the maltreated, over-taxed villages. In Britain we already have clear

archaeological hints of this process, for which elsewhere (as in Syria) we have written testimony. And here again in Britain this divergence has a special interest in that it lies at the root (or one of the roots) of our Dark Ages and so is in the direct line of our insular history. I must not allow myself to be lured today down this picturesque but thorny path. I merely pause to indicate it as one peculiarly deserving of carefully planned long-term effort.

And if we need more material evidence in Britain, how much more do we need it in France. It is unnecessary for me to underline the immense contributions of our Gallic colleagues to classical scholarship. I might easily go further: wherever we travel abroad—in Egypt, Syria, Iran, Afghanistan, China—we find France as the first and foremost representative of Western scholarship *in partibus*. I will not, therefore, I hope, be regarded as a carping critic if I say that no single Roman site in France has yet been explored under modern scientific controls. The omission is a notable one, and is not compensated for by the relative richness of the literary sources. The pages of the book must be supplemented by the strata in the soil before our historical picture can claim to be more than a broken outline.

The Spanish peninsula is in the same case or worse. To Germany I have already referred, and will only pause now to welcome the excellent Mainz section of the one-over-a-million *Tabula Imperii Romani*, published by the German Archaeological Institute in 1940 and difficult to obtain in this country. The Danubian and Balkan provinces need much attention but lie at the present time outside our reach. Africa is more accessible; here the French zone, although the subject of much well-meant attention from the colonial government, shares the omissions of metropolitan France. Even great Carthage has had to content itself largely with the well-meaning attentions of amateurs. Its fated destruction, repented by its ancient enemies, may yet be encompassed slowly by its modern friends.

Of the former Italian North Africa—Tripolitania and Cyrenaica—there is more to be said. In the years before the late war the gadfly of Fascist ambition drove Italian archaeology to extremes of hasty endeavour, which produced results at the same time impressive and deplorable. From sites such as Lepcis Magna and Sabratha the encroaching desert was torn relentlessly away. Fallen buildings were set up again, and international politicians walked warily together amidst re-erected columns as in the groves of a new totalitarian academy. The Roman theatre by the sea at Sabratha was refur-

bished, and Nazi potentates were entertained there. These works of reconstruction were carried out with all the technical skill for which the Italian architect and craftsman are famous. But it is scarcely necessary to remark that science entered very little into the enterprise. Of the latest buildings in the cities of Sabratha and Lepcis, set up during the Byzantine renaissance of the sixth century, little has been allowed to remain and almost nothing recorded, although there is much that we would know about them. They were not in the Fascist programme, which concerned itself only with the proto-Fascist glories of Imperial Rome and relegated everything else to the tip-heap. Recently, I am glad to say, the situation has changed. Mr. J. B. Ward Perkins, now Director of the British School at Rome, began last July the scientific exploration of Sabratha with a party of students (men and women) from this and other universities. When I and some of my colleagues visited him there in September we found a scene that did the heart good to behold. At first glance it was apparent that the Barbary Coast had once more come into its own. Black and tan pirates with monstrous beards and Oxford accents strove bravely amidst the ruins with the problems of Rome and Phoenicia. Occasionally a posse of adventurous spirits would sally forth into the hills and the desert in more extended quest of the Roman and his trouble and would return, days later, with a new chapter of Baron Munchausen. In all this I can see nothing but good—good morally and intellectually. Old problems were being reopened in a new way, and new problems formulated, in an environment of mild but stimulating adventure. I will not attempt to anticipate the concrete results of this work, but cannot refrain from paying a wholehearted tribute to the leaders of this enterprise and their backers. The British School at Rome, the British Academy, London and other universities share the credit; but our gratitude is due first and foremost to the active scholarship of Mr. Ward Perkins and to the indefatigable skill of his principal colleague, Miss Kathleen Kenyon, who was in immediate control of the complex excavation at Sabratha itself. It is to be hoped that the work will continue and develop, and that in future years a larger staff and a more systematised preliminary technical training of the students before departure overseas may render the task of the directors less disproportionately onerous.

And I would emphasise the fact at which I have already hinted, namely, that our African problems do not by any means end with the cities. About and behind them lie the innumerable relics of the yeomanry and peasantry—free, semi-servile or servile—upon whom the

wealth of the famous African cornfields and olive-groves depended. I have stood upon a hill-top in the hinterland of Tripolitania and have counted six or seven upstanding vestiges of this rural population within a circuit of a couple of miles. The landscape is littered with Roman tombs, shrines, and the gaunt megalithic framework of ancient olive-presses. The detailed history of an African farm, recovered by careful excavation, would throw a flood of light upon the chequered economic life of this vital province. And both in the country-mansions and in the towns are mosaic floors of surpassing interest—some of them unparalleled in any part of the Empire—of which we have no comprehensive knowledge. Provincial craftsmanship, no less than provincial economics, demands that attention which is at last being accorded to it.

From Africa I turn to Syria. Here the key-site is of course Palmyra, where the French, under the leadership of M. Henri Seyrig, have carried out important exploratory work during the past two or three decades. Of this work we now await the substantive publication, and until that is achieved our knowledge of the Roman East will lack essential material. The exploration of the Temple of Bel and the agora of this great caravan-city has produced both inscriptions and craftsmanship which illuminate its oriental quality: its active trade with the Persian Gulf and beyond, the Mesopotamian or Graeco-Parthian elements recognisable in its sculptures and its architectural detail, the reciprocal influence of Indian textiles and jewellery, all these are now—or will be—documented and form an impressive introduction to that more intensive exploration which must some day be carried out upon this romantic desert-site. Meanwhile, we may for the moment content ourselves with the lesser city of Dura-Europos, the monumental excavation of which is still in process of publication. There, for the first time in Asia, we have before us, almost entirely as the product of excavation, the cultural and political vicissitudes of a provincial border-town between East and West on a representative scale. The value of the work carried out over a period of ten years by Rostovtzeff and his colleagues points a moral to which I shall return.

Dura has led us to the bounds of the Parthian kingdom which was Rome's principal problem in Asia. But it has not brought us to the ultimate frontier-posts of the Roman Empire at its maximum eastward extension. On a number of occasions the Romans entered Mesopotamia in force and optimistically left there semi-permanent garrisons whose forts (some two dozen or more) as far afield as the

Tigris have been identified from the air by the Père Poidebard and Sir Aurel Stein. Unfortunately Stein died before he could prepare his substantive report, and only a small sketch-map remains.¹ But, such as it is, this map, supplementing Poidebard's superb air-photographs of the Syrian section,² is a stimulating document. Surely these ultimate forts, with the unconquered Arab capital, the city of Hatra, on their fringe, are the most venturesome Chitrals of the Empire! When opportunity offers, it will be well worth our while to ascertain the shape and history of one or two of them and to map them in greater detail.

I have just mentioned the successful use of air-photography in the reconnaissance of our problems in Asia, and I cannot forebear to refer also, however briefly, to a series of remarkable air-photographs which Mr. John Bradford is in process of assembling from Italy, Africa and France—largely by-products of wartime R.A.F. routine. They have not yet been worked out in detail, but recent exhibitions of them have sufficiently emphasised their high importance, particularly in the study of Roman agricultural planning. This is but the latest demonstration of the value of air-survey as first developed by Mr. O. G. S. Crawford in this country some thirty years ago. It is to be hoped that these new photographs will, in spite of economic difficulties, be quickly and worthily published.

As we pass the last Roman octroi on the right bank of the Tigris, we leave Roman officialdom finally behind us. But our journey as students of the provinces would be a very incomplete one if we failed to follow up the extensive oriental trade which was based upon them. In doing so, we shall constantly find ourselves confronted by the obstinate bulwark of Parthia, that amalgam of Asiatic nations which was the constant bugbear of Rome in Asia. At present our knowledge of Parthia is pitifully slight. Save indeed in the western Hellenised zone, the Romans themselves knew little enough of this jealous kingdom, screened by its iron curtain in a fashion not without modern parallel; and the time has come for us as students to emulate the example of those enterprising Roman merchants who, after the victories of Trajan, found it necessary to send a pioneer to re-open the old trade-route across Iran into Turkestan.

It is not, however, along the tedious and insecure land-routes that we shall mostly pursue the Roman traders in their far-flung

¹ *The Geographical Journal*, xcii. (1938), 65; *Journal of the Royal Asiatic Society*, 1941, p. 301.

² *La trace de Rome dans le desert de Syrie* (Paris, 1934).

Eastern ventures. The intransigence of Parthia—the obstinacy of the half-civilised Arsacids and the proud imperialism of the royal Sasanids—drove the Roman merchant into the sea; and from Alexandria and, more intermittently, from the ports of the Persian Gulf an astonishing sea-trade penetrated into the most unlikely corners of the east. The literary evidence for this trade is familiar to Macaulay's schoolboy, but the material evidence which alone can give it coherence and actuality is at present almost wholly lacking. Here and there, indeed, the veil has been lifted a little, and we can guess something of the value and interest of that which still lies hidden. In China, Western imports of the Roman Imperial period have long been known; notably, Syrian or Egyptian glassware from tombs in Honan and Korea.¹ More recently, this evidence has been supplemented by notable discoveries in Indo-China, where the *École Française d'Extrême-Orient* resumed fieldwork in 1944 under the direction of M. L. Malleret on the site of Oc-Eo, near the shores of the Gulf of Siam. Here lies the site of an ancient maritime town nearly three square miles in area, and here the excavator found Roman and Sasanian intaglios and, appropriately enough, gold coins of Antoninus Pius and Marcus Aurelius.² These rather dramatically recall the account in the Chinese Annals of the arrival of soi-disant ambassadors of "An-tun," or Marcus Aurelius Antoninus, at the Chinese court in the year 166.³ It has been conjectured with reason that these "ambassadors" were in fact Roman merchants exploring the sea-route to China at a time when renewed trouble with Parthia had again closed the transcontinental silk-route. But of the extent and significance of these contacts we can form no estimate until Oc-Eo and other sites in and about Indo-China have been far more amply explored than is at present the case.

Our knowledge is considerably more detailed in regard to the famous luxury-trade of Rome with India, though here also field-archaeology is only just beginning to supplement the ancient classical and Tamil historians and geographers. There is now at least no doubt that, in the first two centuries A.D., Roman traders established "factories" or permanent trading-stations up and down the coastline of the Indian peninsula, and that their influence extended directly or indirectly far into the interior (pl. VIA). This is not the

¹ J. Pinjoan in the *Burlington Magazine*, xli. (1922), 236; and C. G. Seligman in *Antiquity*, xi. (1937), 5 ff.

² *L'École Française d'Extrême-Orient de 1940 à 1945* (Saïgon, 1946), p. 12.

³ F. Hirth, *China and the Roman Orient* (Leipzig and Shanghai, 1885), pp. 173 ff.

place wherein to develop the theme; but I may perhaps refer to an excavation carried out on the shores of the Bay of Bengal in the year following Malleret's work at Oc-Eo. It would now appear that before the end of the first century B.C. the periodicity and use of the south-western monsoon were sufficiently publicised to enable considerable numbers of merchantmen to steer a direct course from the Red Sea to the western coast of India: where some part of their cargoes was transported by a land-route across the peninsula south of Madras to the east coast for further distribution. By the second quarter of the first century A.D. this portage-trade was a brisk one, with Ceylon, the Ganges delta and possibly Indonesia and China as its ultimate objectives. The Romans sought spices, ivory, muslin, silk and semi-precious stones; in return the Indians and their neighbours demanded wine, pottery, metalwork, glass and bullion. A temple of Augustus stood at one time beside the sheltered backwaters of Cochin, where the Roman sea-going ships used to come to anchor; and on the other side of the peninsula we uncovered in 1945, on the shores of a palm-fringed lagoon near Pondicherry in French India, the remains of a warehouse and other buildings about which lay the wine-jars, the table-wares and the gemstones that are the vivid witness of a Roman depot hereabouts (pls. III-V).¹ When we were picking out of the alluvium of the Bay of Bengal bright red sherds of glazed ware from the same familiar factories of Italy as those which, for instance, have rewarded Professor Hawkes 5,000 miles away at Camulodunum or might greet the eyes of Mr. Grimes in the dismal abysses of Londinium, the astounding achievement of Roman Imperialism assumed an epic quality that struck the imagination more sharply than any Greek catalogue or Indian romance. And when, last year, we followed up the results of Pondicherry by an excavation in the remote midst of the central Indian plateau and found during our first week there yet more Roman pottery and coinage,² the inevitability of Roman contact almost overstepped the bounds of credibility.

It was, however, left to our French colleagues in Afghanistan to carry all likelihood to its uttermost limit. The visitor to the museum at Kābul today will find a crowded room full of the most amazing collection of objects of art and craftsmanship, and a part of the same collection can be seen nearer at hand in the Musée Guimet in Paris. The objects include a series of ancient Indian ivory carvings, un-

¹ *Ancient India*, No. 2 (Delhi, 1946), pp. 17 ff.

² *Ibid.*, No. 4 (1947-8), pp. 272, 290.

rivalled anywhere alike for quantity and for varied excellence; beside them are the crumbling remains of Chinese lacquer-work; and near by are Graeco-Roman bronzes—figurines of Harpocrates and of a Herakles-Serapis (pl. VIB),¹ a steelyard weight in the form of a head of Athene, and the débris of caskets and furniture such as might come from the lava of Pompeii; plaster plaques or *emblemata* (pl. VII), probably models for metalwork,² bearing heroic and other figures in relief; and, finally, a great quantity of Mediterranean glassware of the finest sort, including a vessel moulded in relief with the representation of a pharos, intended possibly to indicate that of Alexandria. And the almost unbelievable thing is that the whole of this cosmopolitan collection was found together, in 1937 and 1939, carefully packed in two insignificant rooms of which the remains can still be seen lying out on the ancient site of Begram, beneath the towering massif of the Hindu Kush, fifty miles north of Kābul. If the word “dramatic” could be attached to so static and orderly an assemblage, this royal store-room or customs-depot may be described as one of the most dramatic in the annals of archaeology.

Only a part of this great treasure has yet been published.³ But, setting aside in the present context its important contributions from India and China, those from the classical West tell a fairly clear story. The Harpocrates, the Herakles-Serapis, the plasterwork, and some part at least of the glassware point to Alexandria as the main source, and there can be little doubt that the collection represents a number of voyages from the Red Sea to the Indus or the coast of Gujarat between the first and the third centuries A.D. Overland transit through Iran need not seriously be considered as a possibility, less by reason of the extreme fragility of the wares than from the fact that during the major part of the period the Parthian kingdom

¹ For this combination of Serapis (with the calathus headgear) with a classical deity other than Zeus, cf. a Hermes-Serapis from Sabratha (small bronze in the site-museum).

² For the use of plaster models in Ptolemaic and Imperial Egypt, see T. Schreiber, *Die Alexandrischen Toreutik* (Leipzig, 1894), pp. 470 ff.; A. Adriani, *Le gobelet en argent* (Soc. Roy. d'Arch. d'Alexandrie, 1939), pp. 12, 26, 33; and O. Rubensohn, *Hellenistisches Silbergerät in antiken Gipsabgüssen* (Berlin, 1911), *passim*. Examples from Sabratha in Tripolitania are preserved in the museums of Sabratha and Tripoli.

³ J. Hackin, *Recherches archéologiques à Bégram*, Mémoires de la Délégation Française en Afghanistan, ix. (Paris, 1939). See also R. Ghirshman in *Journal Asiatique* ccxxxiv. (Paris, 1947), 59 ff.; and the same author, *Bégram, recherches arch. et hist. sur les Kouchans* (Cairo, 1946).

was actively or potentially at war with Rome and overland traffic must have been practically at a standstill.

Here then is a lavish instance of Western merchant-venturings by sea and land far into the interior of Asia. I may not stay now to discuss the many problems of the Begram hoard, but an aspect of it which has not, I believe, attracted yet the attention that it deserves is its possible bearing upon one of the outstanding mysteries in the history of art. I refer to that remarkable impact of classical elements upon Buddhist sculpture and iconography over a vast stretch of Asia in the second, third and fourth centuries A.D. Since 1870, when vestiges of this art were first brought to public notice in England, the whole subject has become involved in a tangled controversy, full of blind paths and circular tracks, and not free from the ferocity of the jungle. The basic fact, however, is clear enough: that under the Kushāṇa régime of north-western India and Afghanistan flowered a complex school of sculpture, working in stone, clay and, above all, stucco, which made familiar use of classical idioms in the expression of an oriental ideology. How did these intrusive elements reach the highways of central Asia? Not through the descendants of Alexander's Asiatic Greek colonies, for their semi-Hellenistic culture had lapsed for over two centuries before this Buddhist art matured. Hardly across Iran, for the Parthians, as I have said, mostly held the field. Surely they came by the sea-route which brought the glass vessels and bronzes of Begram and others found by Sir John Marshall at Taxila. They came via the Indus delta, up the mighty river valley where vestiges of this stucco art have been found overlying the famous prehistoric site of Mohenjo-daro,¹ to the arterial trade-route which ran from the Indian plains through Taxila to the vale of Peshawar, up the Kābul river-system past Begram itself and thence through the Hindu-Kush to the China road in Bactriana and beyond. What vast, what epic horizons open up to the classical cultures of the Roman world, far beyond the last police-post of the remotest political frontier but well within the boundaries of our Roman studies!

Before I leave this fascinating problem of the extension of Graeco-Roman modes into central Asian tracks, I cannot refrain from drawing attention (I think, for the first time) to one very relevant factor which emerges from our study of the Mediterranean provinces. In the light of archaeological discovery I have just re-

¹ The occurrence of stucco sculpture on the Buddhist site at Mohenjo-daro (J. Marshall, *Mohenjo-daro and the Indus Civilisation*, i, 117) has escaped the attention which it deserves.

emphasised the traditional position of Alexandria in this oriental traffic. I have also referred to the Romano-Buddhist¹ stucco sculpture of North-west India (pl. VIIIA), Afghanistan and the Sino-Bactrian trade-route. That stucco sculpture far surpasses the equivalent Buddhist (Gandhāra) stone sculpture, alike in quality and in geographical range. It is the dominant element in Romano-Buddhist art; at the same time, the technique has no known root in Asia. Whence may it have come? The answer is, once more, *Alexandria*. There, Hellenisation under the Ptolemies inculcated, amongst other things, a taste for marble sculpture. Unfortunately, good native marble is not available in or near the Egyptian Delta.² On the other hand, along the coast to the west of Alexandria a rich bed of gypsum shines like sunlit snow against the dark ultramarine of the Mediterranean. Here, in unlimited quantity, was a ready-made substitute for marble, and from the Ptolemaic period onwards this marble-substitute, in the form of plaster or stucco, was used freely by the Hellenising sculptors of Alexandria (and, to a lesser extent, elsewhere) both for statuary and for the metalwork-models to which I have referred. Sometimes a statue might aspire to a marble face affixed to a stucco matrix. Sometimes the sculpture would be wholly of limestone save for a veneer of stucco to simulate marble. Sometimes the whole work would be of plaster or stucco.³ Notable examples may be seen in the museums of

¹ For reasons which I shall discuss elsewhere, I revive the term "Romano-Buddhist" which Vincent Smith urged long ago as the most suitable appellation for this composite art (*Journal of the Roy. Asiatic Soc. of Bengal*, 1889, p. 172), using the term "Roman" in a proper sense as comprehending the classical and semi-classical art of the Roman imperial period. There is no valid reason for regarding "Gandhāra" art as other than a particular manifestation in stone of this Romano-Buddhist art, which found its most widespread expression in stucco and clay.

² Marbles, generally of an inferior kind, occur in the eastern and remote south-eastern deserts but were sparingly used by Egyptian sculptors. See A. Lucas, *Ancient Egyptian Materials and Industries*, 3rd ed. (London, 1948), p. 472. For the occurrence of gypsum in Egypt, *ibid.*, p. 97.

³ See generally, O. Rubensohn, *op. cit.*; also F. von Bissing in *Arch. Anzeiger*, 1901, p. 205; E. Breccia, *La Necropoli di Sciatbi* (*Cat. gén. des antiquités égyptiennes, Musée d'Alexandrie*, 1912), i, 156, etc.; ii, pls. LXXV, LXXXI; C. C. Edgar, *Cat. gén. des antiquités du musée du Caire, Greek Sculpture*, 1903, pp. 21, 69, 71. Outside the Nile Delta stucco sculpture has been found along the North African coast at Sabratha (site-museum) and as far west as Sousse (*Arch. Anzeiger*, 1907, p. 168), and it occasionally occurs in Italy (R. M. Riefstahl in *The Art Bulletin*, xiii, Chicago, 1931, pp. 457-8; and a good example in the *Insula del Serapide* in the nuovi scavi at Ostia); but Egypt (Alexandria, Memphis) was undoubtedly the centre. The application of stucco ornament to Roman house-walls and temples in Italy and Africa, or to sarcophagi in Kertch (C. Waltzinger, *Griechische Holzsarkophage aus der Zeit Alexanders*

Cairo, Alexandria, Sabratha (pl. VIIIB), and (at least formerly) Berlin. The sequence begins to take a rational and revealing shape: the development of the stucco technique at and from Alexandria in response to local needs and resources: the strong commercial link, vouched for by literature and by archaeology, between Alexandria and India; the development in North-west India and Afghanistan in the second century A.D. of Mahāyāna Buddhism, with its demand for a new imagery; and the mobility and adaptability of so easy and expressive a medium as stucco, whether transmitted by itinerant artists or by traffic in moulds—there we seem to have the necessary material components for a historical solution of our problem.

But I must resist the temptations of this alluring by-road. Nor may I linger further even upon the highways of my subject. I would conclude by inviting your attention to one or two emergent factors. And first there is the ever-present problem of what I may call integration. In developing the personality of our individual provinces, we must resist the encroachment of an excessive provincialism upon our studies. I have just tried to indicate how some small part of our miscellaneous and scattered material may be interrelated causatively. How far can we extend this principle? How far, and in what fashion, do the component elements of our Roman Empire and its history constitute a coherent organic whole? Attempts have of course been made by students to achieve this synthesis. In the present context I will refer only to the brave effort of F. J. Teggart, of the University of California, who has stressed the apparently significant sequence or rhythm of wars in China, in the Middle and Near East, and in Europe during the period of the Early Roman Empire. During that period he observes that “every barbarian uprising in Europe followed the outbreak of war either on the eastern frontier of the Roman Empire or in the ‘Western Regions’ of the Chinese.”¹ As a native of Scotland, I am interested to note, for example, that the evacuation of that kingdom by the Romans in A.D. 106–108 was a sort of grand climax to

continued from previous page]

des Grössen, Leipzig, 1905, p. 53), is not comparable; nor, save in the vaguest way, is the occasional preparation of (plaster?) casts of Greek sculpture perhaps as early as the end of the fourth century B.C.—see S. Reinach in *Revue Archéologique*, 3rd S., XLI (1902), 5 ff. There is some Sasanian stucco, and the medium was extensively used in Islamic Iran (Riefstahl, as cited; and for stucco ornament and figure-sculpture at Ctesiphon in the fifth and sixth centuries A.D., see E. Meyer in *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin*, No. 67, April 1929, pp. 20 and 24), but this also lies outside the present picture.

¹ *Rome and China* (University of California Press, 1939), pp. vii–ix, 236, etc.

the evacuation of the Tarim Basin of Central Asia by the redoubtable Chinaman Pan Ch'ao in A.D. 102; with the overthrow of Parthia, the annexation of Arabia and the conquest of Dacia as intermediate links in an international chain of trouble. We need not follow Teggart the whole way in his analysis, nor accept as completely adequate this judgment that "the correspondence of wars in the East and invasions in the West was due to *interruptions of trade*." But there can be no doubt as to the value, nay the necessity, of the breadth of outlook which underlies his thesis. The Roman provinces and their environs—the civilised world in other words—constitute a single complex organic unit of which the combined significance is too little understood, too little explored.

Let us, then, explore. But here another much-debated question arises. Where and how shall we explore? How far is it fit and proper, or useful, to speak of "values" in research? How far should research be *organised*? And by that I mean "placed upon an explicit priority basis," not merely controlled in a general way by the tendencies or fashions of the age. Is all research an end in itself, or should it be planned and co-ordinated, in order that the maximum advance in some particular direction may be secured in the minimum of time? Should the soldiery attack when and where it feels inclined, or should it be generaled?

This is not an easy question to answer. Yet, on the balance, I incline to systematic co-ordination of effort. I do so with reservations. Experience has shown how evanescent even a carefully thought-out scheme for research may be, in consequence of changing values or chance discovery. Nevertheless, I firmly believe that we may and must recognise objective values in archaeological and historical research: that, for instance, the question whether Julius Caesar was born in 100 or 102 B.C. has a definitely lower value in our humanistic enquiries than has, shall we say, the question of the date of Khammurabi. And today, above all, we surely need some fresh evaluation of our work in Roman studies. On all sides we are hedged in by irrelevant restrictions and immediacies. Our best field-workers are inhibited by lack of funds, by lack of labour, by geographical or political iron curtains; or, at the best, are directed by the fortuitous incidence of an enemy bomb or a housing-scheme. Chance and salvage govern our labours; we stand in imminent risk of losing our powers of long-term thinking, of effective generalship. We need a plan.

Such a plan for British archaeology has in fact been drafted

recently for the Council for British Archaeology by Professor and Mrs. Hawkes, Lady (Aileen) Fox and others. It is a weighty document and demands careful consideration. Today I am concerned with a field far wider in space if narrower in time—a field in whose vast extent without leadership we shall assuredly lose our way and waste our strength. You would not thank me if at this late hour I were to enter upon a discussion of long-range planning. But I may be allowed to refer to an aspect of it which is very near to us, the position of Roman Britain in this matter. Even in the present difficult times, more work, and better work, is being done on Roman Britain than on any other of the Roman provinces. We are certainly cultivating our garden, and there is sometimes a risk lest that tiny allotment should usurp too large a place in our affections. Let us get this matter right: what is the *value* of Roman Britain in our humanistic or even, more narrowly, in our Roman studies?

We are compelled, I am afraid, to confess that that value is not very high. For another hundred years, and with increasing skill, we might continue to search out the niceties and adjust the jig-saw of Hadrian's Wall, for example, without adding materially to our appreciation of human attainment. This little ultimate peninsula of ours is after all not so very important in the history of ancient civilisation. But in flattering it, perhaps, with a disproportionate share of our attention, we are in fact serving another and wider purpose which more than justifies our gallantry. For the abundance of our ancient insular cultures, the variety of the surviving evidences (even if we consider the Roman period alone), and, above all, the geographical compactness which ensures constant and effective criticism, combine to make the archaeology of Britain the best training-ground in the world for the young archaeologist. If Britain is not and never can be a major battlefield in the study of ancient civilisation, it is at least the ideal training-ground for our field armies. If it can never provide us with an archaeological Alamein, it is at least an admirable archaeological Aldershot. The battles will be fought elsewhere—on the European continent, in Africa, in Asia. But do not let us turn our recruit, as we have too often done in the past, on to the battlefield until he has passed through our Aldershot discipline. In too many parts of the world—Africa, Palestine, Syria, India—have I beheld the criminal ignorance and malpractices of the untrained archaeologist (British, American, French, Italian, German). Were it within my power, I would insist upon the qualification *P.R.B.*—"Passed Roman Britain"—from every British field-archaeologist before licensing him

to practice abroad, whatever the nature or period of the chosen objective there. And, conversely, I would insist upon P.R.B.s extending their studies overseas to the maximum margin possible, certainly to a far greater extent than at present. Our little Aldershot is a means to an end and, in this context, a desirable end; it is not an end in itself.

The general moral of what I have been saying is, I hope, clear enough. Further major progress in the subject-matter of this Chair will depend mainly upon effective action in the field, and particularly in the foreign field. Archaeology is no longer primarily a discipline for clerks in slippers. True (let us add graciously), they have their uses still, these clerkly gentlemen, and I would hasten to make it plain that I am not for an instant tilting at my honoured colleagues, the professed historians. Some of them would indeed be none the worse, perhaps, for a little clay about their boots; but do not let me for a moment appear to echo, even by remote implication, those wicked sentiments uttered long ago by the gentle Sir Philip Sidney when, with unwonted asperity, he condemned the Historian as "laden with old mouse-eaten records, authorising himself (for the most part) upon other histories whose greatest authorities are built upon the notable foundation of Hear-say—having much ado to accord differing writers and to pick truth out of partiality." In this naughtiness I need hardly say that I have no share. My distinguished colleague, Professor Jones, has his own eminent and essential task as a very modern Ancient Historian, and trembles not at the shade of Sir Philip. My only purpose now is to remind ourselves, as it is still useful sometimes to do, that the traditional view of Archaeology as a "Hand-maid of History" belongs to the era of the Dodo.

Today there is a new pervasive scholarship abroad in our humanistic studies; a scholarship founded on a range of disciplines not comprehended *sub voce* by the *Oxford English Dictionary*. Archaeological scholarship is today the accurate analysis and synthesis of geological, geographical, physiographical, chemical, physical, climatological, biological, botanical, technological, air-photographical and stratigraphical evidences, to which the written word is a welcome addition as partner but not as king. To this complex of objective sciences which in their humanistic application, we nowadays, as I say, call archaeology I would add emphatically, with the Disney Professor, the subjective controls and perversities of our human subject, as it were the pepper and salt to taste. In the latter respect, our classical studies are in happier case than are our studies of non-

literate societies, since the personality of the literary record, however fragmentary, is itself in some measure a reminder of this human element. But the reminder is generally on a high political level and, in the aggregate, tells us astonishingly little of the real substance and quality of the human stuff with which we are concerned. At the lowest, our ancient historians give us police news and society gossip; but we as archaeologists must descend far lower than that if we are to enter into the significant depths of history as history is nowadays understood; and to do that we have to enter into the depths of the earth, nothing short of it. Some little man, some *homunculus* (I know not who), with the intellectual outlook of a dame-school of 1800, has recently scorned this newer scholarship as "dirt archaeology," as something grossly material and unacademic. Presumably he would also describe Darwin's study of earthworms as "dirt biology."

Let me make it clear, then, that I would apply to our study of the Roman provinces, to a far greater extent than hitherto, the whole machinery of modern materialistic archaeology. We have in classical studies inherited a tradition of polite antiquarianism, and I, for my part, should be sorry to see this tradition wholly disappear. But let it linger quietly in remote cloisters; it is no longer in the main thoroughfares of thought. If we look back over the past hundred years, it is easy to see that the major advances in archaeological knowledge have been stages in a growing consciousness of the materialistic approach. Its principal starting-point has been work in the field—that fieldwork which has, for example, uncovered Sumer, identified Minos, revealed the civilisation of the Indus, and in general begun to set Man in the environment which he has shaped and has in turn shaped him. These discoveries are essentially the product of skilled action and of the controlled co-ordination of an increasing range of disciplines and techniques. Modern archaeology is in the fullest sense a Combined Operation; and the qualities of the modern archaeological scholar may indeed be assessed on the military plane. Lord Wavell, who knows, has recently summarised the attributes of a general under the following heads: "his worth as a strategist; his skill as a tactician; his ability to train troops or to direct their training; and his energy and driving power in planning and in battle."¹ With immaterial changes, these are the qualities which we must try to inject into our modern archaeological scholarship. We may for the purpose translate them as: vision in the choice of site or subject; skill in its investigation; power to deal with authorities and colleagues, who are under

¹ *The Good Soldier* (1948), p. 32.

modern conditions vital to the multiple aspects of our work; ability to train assistants and technicians; and energy and driving power in planning, in correlating specialist studies, and in publication. Into this warlike complex, your slippered clerk comes as an essential colleague but rarely as a leader. Most of the great archaeologists have been first and foremost men of action. And there is another aspect of the matter. In these days, when our arms are aching with the pulling down of Union Jacks, we are closing one by one those fields of action that have in the past been the making of the nation. In this narrowing horizon, the field of non-political, cultural action assumes a proportionately enhanced national and social importance. Vast fields of this sort await the man of action in the studies to which my new Chair is attached. No country in the world can produce better scholars and technicians than ours for their exploration. No people is more instinct than ours with the spirit of sober adventure, provided that we are kicked sufficiently into action. Today, as I say, we have few peaceful outlets or stimuli; in Burma, in India, in Palestine, in Egypt, the political world has crowded in upon us; those careers of adventurous routine which so often formed the basis of adventures of the mind are, many of them, ended. The world of detached cultural and scientific adventure remains to us; it may yet be our salvation. Archaeology will never shorten cigarette-queues or help our Government to formulate the next reply to Mr. Molotov. From the viewpoint of the pragmatist it is completely useless, and the fumbling attempts sometimes made by humanists to justify their ways to God in terms of mundane utility to Man are mostly so much special pleading. But archaeology has other qualities which are of high and timely significance. It is above all things a robust, adventurous science, one which, in the manifold task of revealing in three dimensions the works of man's unconquerable mind, can stimulate that mind to fresh conquest as can few other disciplines.

The spirit of archaeology, then, is the spirit of active adventure. Wherefore, I end my discourse with this earnest plea. My learned brethren—if for the moment I may limit the traditional phrase to the professors of those humanistic studies to which I adhere—my learned brethren, as scholars we must, in the old formula, “live more and exist less”;¹ it behoves us to take action; we must turn our Chairs into Chariots, or we shall be left—sitting. I seem to recall the

¹ So exclaims a certain modern and lively school of poets (as indeed have modern schools of all epochs). See C. H. Waddington, *The Scientific Attitude* (London, 1948), p. 52.

unhappy example of an elder statesman who, now some years ago, sat optimistically in a chair at the edge of the flowing tide. If I remember rightly, the experiment was not successful. Today, in England, a tide of indifference and fatalism threatens us; let us learn at least a moral from history, or we shall get our feet wet. And cold feet are as little apt to the scholar as to the soldier. Let us bestir ourselves, and with a good heart, before the tide engulfs us.



The site of the Roman trading-station at Arikamedu, near Pondicherry, S.E. India

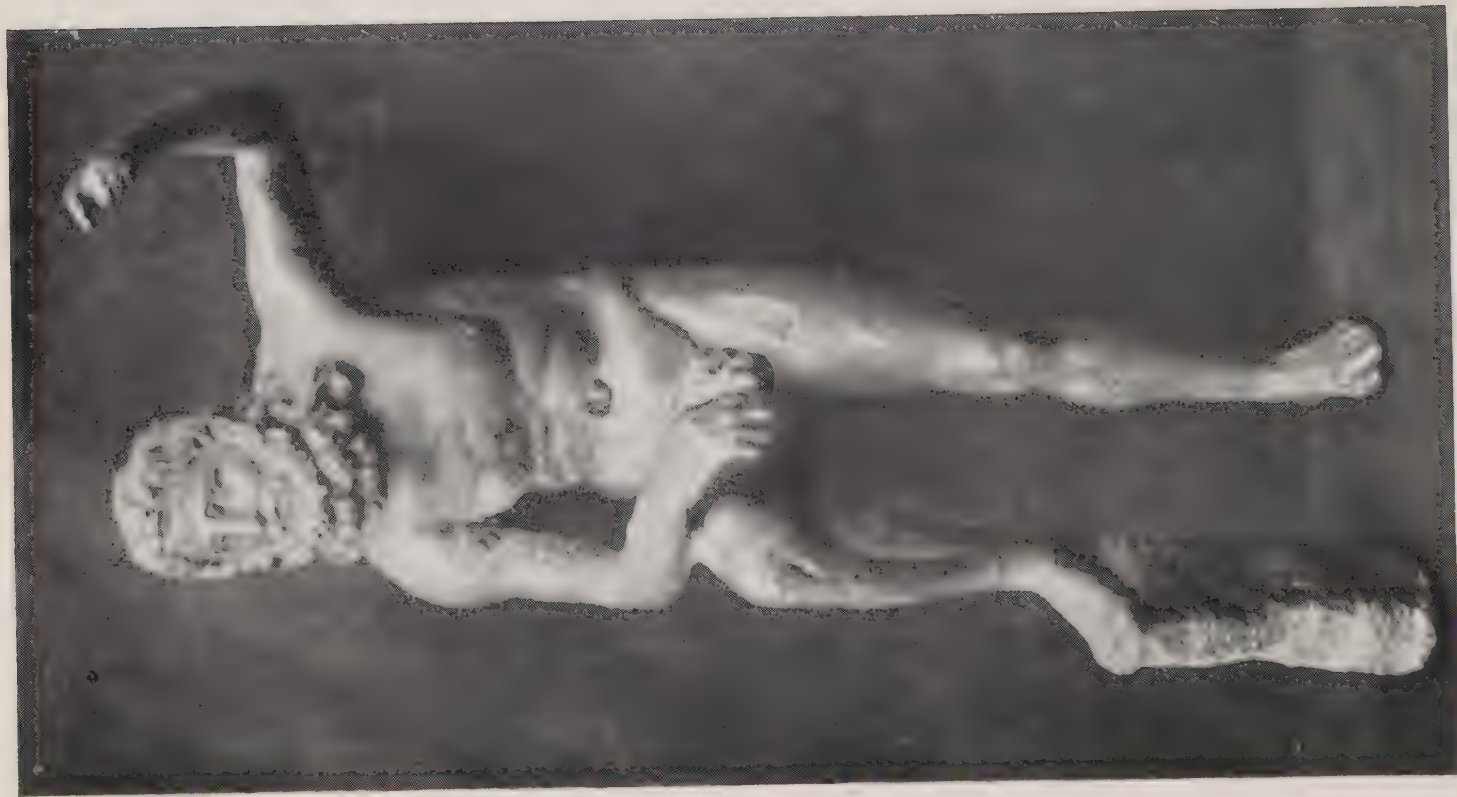
to face page 64



1-6, Arretine ware (1 stamped VIBIE); 7, fragment of Roman lamp.
From Arikamedu, near Pondicherry, S.E. India



Fragments of Roman amphorae from Arikamedu, near Pondicherry, S.E. India



A. Bronze statuette of Poseidon (ht. 5 ins.)
from Kolhapur, W. India
(*Kolhapur State Museum*)



B. Bronze statuette of Herakles-Serapis (ht. 9 $\frac{1}{4}$ ins.) from
the Begram hoard, Afghanistan
(*Kabul Museum*)



Stucco plaque or *emblema* (diam. $5\frac{1}{2}$ ins.) from the Begram hoard, Afghanistan
(*Kabul Museum*)



A. Stucco head of Bodhisattva (ht. $7\frac{1}{2}$ ins.) from Taxila,
W. Punjab, Pakistan
(*Taxila Museum*)



B. Painted stucco head (ht. $4\frac{3}{4}$ ins.) from the Roman
city of Sabratha, N. Africa
(*Sabratha Museum*)

Miss K. Kenyon

SECRETARY OF THE INSTITUTE 1935-48

THE following tributes were read at the Management Committee on the occasion of Miss Kenyon's resignation from the Secretaryship to become Lecturer in Palestinian Archaeology and were ordered to be printed.

I. *From* SIR CHARLES PEERS:—

In looking back to the beginning of the Institute of Archaeology there rises in our minds a feeling not too common in the present time—and that is, one of satisfaction. After the War of 1914-18, the minds of many of us turned to the study and maintenance of what had come down to us from the past and had been by the force of circumstances, notably endangered, neglected or actually destroyed. But the realisation of its value to our civilisation called for a more thorough consideration of what was in our power to attempt, and the Institute of Archaeology was one of the results. It was fortunate for those who were concerned in the matter that in the choice of an organising secretary, Miss Kenyon's services were available. And nobody can know the full value of a secretary so well as the person who has to preside over the meetings. For that reason I, as the first Chairman of the Advisory Committee, desire to take the present opportunity, when Miss Kenyon is to take up an appointment as Lecturer in Palestinian Archaeology, to express to her, as far as it is my business to do so, my most sincere appreciation of all she did in the early years of the Institute. Her clear and orderly mind was of the greatest value to all of us: but most of all to the Chairman who was thereby exempt, as far as that was possible, from the anxieties of his post. And it is pleasant to feel that her wide knowledge of the subject of her lectureship is now to be employed in ways which are not, like most things connected with Palestine, likely to bring upon her the attentions of the Haganah or other malevolent bodies.

CHISLEHAMPTON HOUSE, STADHAMPTON, OXFORD.

January 5th, 1948.

2. *From* SIR CYRIL FOX:—

An important item on the Agenda for the meeting of the Committee on the 13th is Miss Kathleen Kenyon's resignation of the Secretaryship of the Institute. I cannot be present at the meeting, but I should like to be allowed to join others in expressing a deep sense of debt to Miss Kenyon for her services.

Officially the Institute began its active life when it was opened by the Chancellor of the University in 1937, its doings in that year being chronicled in the *First Annual Report*. But by then five years of intense and creative work had been carried out; and being very interested in the project, and a friend of its sponsors, I saw a good deal of what went on behind the scenes.

I recall that Miss Kenyon took over from the late Mrs. Tessa Wheeler in 1935, and that the whole business of installing the Institute in its present premises fell on her capable shoulders. Never was more public-spirited a scholar than she, always placing the work before the reward; if a task engaged her interest, and was felt by her to be worth doing, she would undertake it, and find financial means of keeping herself by collateral activities. I believe the pay she received for this archaeological work in the early days was not more than £200 a year.

It was a happiness, then, to stroll into the Institute (as indeed it is now)! K.K., as she is affectionately called, would come into the "tea room" from the office or lecture room, talk to old stagers about her problems—cases for the collections, additions to the library, ways of raising funds, suitable lecturers for the courses; then she would interview interested youngsters, taking cups of tea and buns in the intervals. Until the situation was recently transformed the Institute had a hard struggle to exist; it was understaffed and its servants underpaid.

The experience gained by such an extensive burden of responsibility and by her important achievements as a digger here and abroad (which give her high status wherever archaeologists are gathered together), was of the greatest value to the Institute. She was more than a tireless worker; by nature a creative organiser. It was thus natural when Dr. Wheeler went on active service, she should have been appointed Acting Director. In this capacity she had all the responsibility of packing and storing the collections—and of reorganising them when the war ended.

How finely K.K. showed her quality during the war, when merely to carry on was an achievement! It did not seem so to her.

MISS K. KENYON

She knew Wheeler's intention, that the Institute should be a powerhouse of modern Archaeology, a centre for its development as a Science; and she acted on this under circumstances which would have discouraged most people. I have before me the record of the "*Conference on the Future of Archaeology*" held in August 1943—not a very agreeable time in London. It was, as we all know, a brilliant success.

As I ventured to suggest in this room on a previous occasion, that conference and the one that followed it, "*Problems and Prospects of European Archaeology*," held in 1944, showed what an important position the Institute held in the Archaeological world, and may well have influenced the University authorities to hand out the nice substantial Grants the Institute is now getting. Many people helped the work of those conferences; those who did the most know best how fundamental and indispensable was the work of the Acting Director.

In conclusion I hope and am sure a resolution of thanks to Miss Kenyon, doing justice to her services, only a few aspects of which can here be referred to, will be unanimously passed.

NATIONAL MUSEUM OF WALES, CARDIFF.

Subscribing Membership of the Institute

A SCHEME of membership of the Institute was established in the Session 1937-38. The object of the scheme is on the one hand to enable others in addition to the registered students to make use of the facilities of the Institute, and on the other to enable those interested in the furthering of archaeological research and teaching to support the work of the Institute.

The minimum subscription is one guinea per annum, but larger sums will be most welcome. Details of arrangements for Life Membership, depending on the age of the member, can be obtained from the Secretary. A covenant to subscribe for seven years will enable the Institute to recover Income Tax on the amount of the subscription, and the Management Committee will be most grateful if members are able to give this Covenant.

Privileges of members are as follows:—

1. Notices of all lectures, exhibitions, etc., at the Institute.
2. The free issue of the main publications of the Institute. These consist in the first place of an *Annual Report* (suspended during the war) containing a statement of work done during the year, the text of certain of the lectures given at the Institute, and other suitable archaeological matters. Secondly, a series of *Occasional Papers* is issued. These deal with subjects for which there is not already a suitable medium of publication, and include or will include monographs on particular classes of archaeological objects, descriptions of objects or groups in the Institute's collections, Geochronological Tables, and monographs on archaeological methods and technique.
3. The use of the Institute's library. Books may be used in the reading room, borrowed for use elsewhere, and can be sent by post.
4. The use of the Institute's slide collection, at a small fee. The collection includes besides basic material on prehistoric Euro-

SUBSCRIBING MEMBERSHIP OF THE INSTITUTE

pean, British and West Asiatic archaeology, a large number of slides illustrating excavations in this country and Hither Asia.

5. A reduction of approximately 25 % on the fees for those courses of lectures for which a fee is charged.
6. The use of the Institute's technical departments, namely, Geochronological, Photographic, Repair and Drawing. Work is carried out for members, and a reduction of 25 % is made in the fees charged. Advice is given to members on problems related to the work of the Departments.
7. Advice on archaeological reading on subjects covered by the teaching of the Institute can be given if required.

Tessa Verney Wheeler Memorial Bursary

IN accordance with the wishes of the majority of subscribers, it was decided that the fund collected in memory of Tessa Verney Wheeler should be devoted, after the provision of the tablet in the Library of the Institute, to the establishment of a bursary for the assistance of archaeological students. The capital, amounting to £569, has been invested in the name of the Society of Antiquaries of London, and the interest will be devoted to this object. The administration is in the hands of a committee appointed partly by the Society of Antiquaries and partly by the Institute of Archaeology. The object of the bursary is to give assistance to students in archaeological studies in any way which may appear most useful to the committee. It may, for instance, be given for travel for the purpose of research, for the purchase of books and equipment, or for assistance in living expenses during excavations or while pursuing a course of study. The bursary may be divided among a number of students, or given to one only, or it may not be awarded at all in a particular year, if there is not a suitable candidate.

It is realised that the amount available is not large, but it is felt that even small grants will often make a great deal of difference to some students. Everyone would agree that the use of the fund in this way would have been in accordance with Mrs. Wheeler's wishes, and it is hoped that once a fund such as this has been started, it may form a nucleus to which additions may from time to time be made.

Teachers or field-workers who hear of suitable candidates should apply to the Secretary of the Society of Antiquaries, Burlington House, W.1.

University of London Institute of Archaeology

PUBLICATIONS

REPORTS

FIRST ANNUAL REPORT FOR 1937 (with papers by A. T. BOLTON and C. F. C. HAWKES)	Out of print.
SECOND ANNUAL REPORT FOR 1938 (with papers by V. GORDON CHILDE and STANLEY CASSON)	5s.
THIRD ANNUAL REPORT FOR 1946 (with papers by S. PIGGOTT and V. G. CHILDE)	5s.
FOURTH ANNUAL REPORT FOR 1947 (with papers by M. E. L. MALLOWAN, I. W. CORNWALL, and V. G. CHILDE)	5s.

OCCASIONAL PAPERS

1. The Tenure of Land in Babylonia and Assyria. By RACHEL CLAY ..	2s. 6d.
2. Geochronological Table No. 1, An Attempted Correlation of Quaternary Geology, Palaeontology and Prehistory in Europe and China. By W. C. PEI	2s. 6d.
3. Geochronological Table No. 2, The Age of Neanderthal Man, with Notes on the Cotte de St. Brelade, Jersey, C.I. By F. E. ZEUNER ..	3s.
4. Geochronological Table No. 3, The Chronology of the Irish Stone Age. By H. L. MOVIUS, Jr.	3s.
5. Report of the Conference on the Future of Archaeology ..	3s. 6d.
6. Report on the Conference on the Problems and Prospects of European Archaeology	5s.
7. The Terraces of the Upper Rhine and the Age of the Magdalenian. By DAY KIMBALL and F. E. ZEUNER	3s. 6d.
8. Denudation Chronology. By DAY KIMBALL	3s. 6d.
9. The Exhibition of Stone Age and Pleistocene Geology from the Cape to Britain	2s. 6d.

NOTES ON MISCELLANEOUS SUBJECTS

Catalogue of an Exhibition of Recent Archaeological Discoveries in Great Britain and Northern Ireland, 1938	1s.
Notes on an Exhibition of Pottery of the Early Bronze Age of Cyprus, 1939. (Material from excavations sponsored by the British School of Archaeology, Athens, carried out at Vounous, Cyprus)	4d.
Summary of Archaeological Organisations in Great Britain	1s. 9d.
Summary of Archaeological Organisations in some European Countries	3d.

University of London Institute of Archaeology

RESEARCH REPORTS

These reports are published by the University of London Institute of Archaeology, and are intended to provide a medium for the publication of research results in the field of archaeology. The reports are published in a series of volumes, and are available to the public at a special price. The reports are published in a series of volumes, and are available to the public at a special price. The reports are published in a series of volumes, and are available to the public at a special price.

THE GRESHAM PRESS
UNWIN BROTHERS LTD
WORKING AND LONDON

The reports are published in a series of volumes, and are available to the public at a special price. The reports are published in a series of volumes, and are available to the public at a special price. The reports are published in a series of volumes, and are available to the public at a special price.

The reports are published in a series of volumes, and are available to the public at a special price. The reports are published in a series of volumes, and are available to the public at a special price. The reports are published in a series of volumes, and are available to the public at a special price.